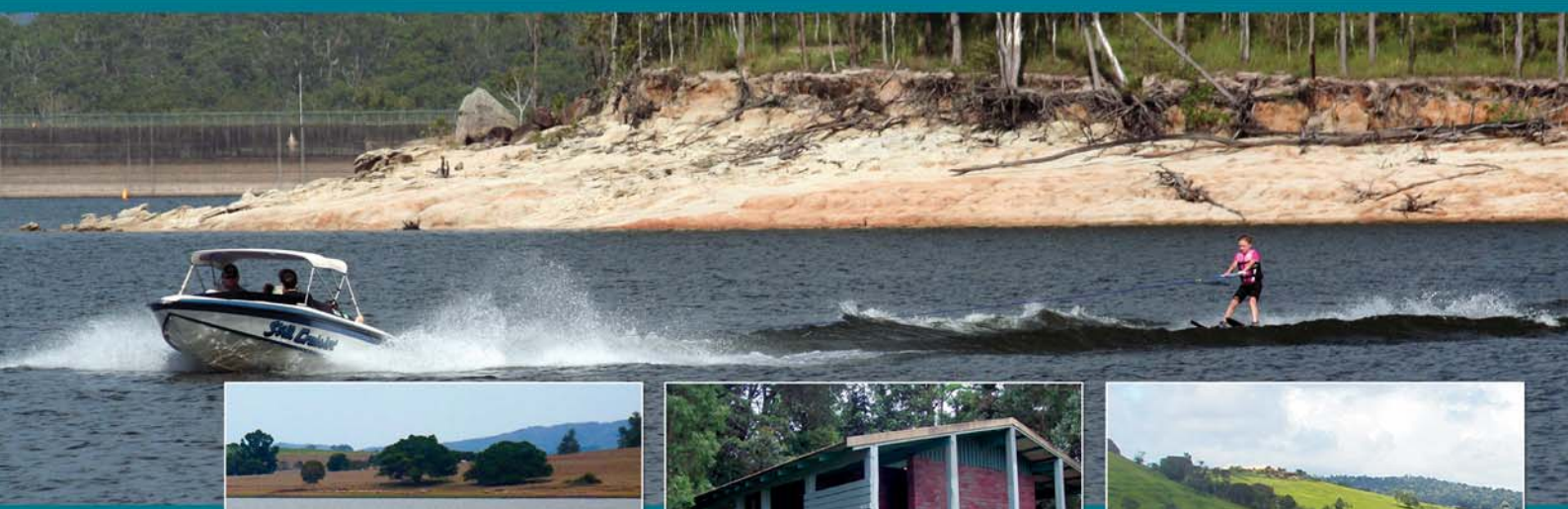




Sustainable Nature Based Tourism: Planning and Management

Report on Visitation and Use at Lake Tinaroo, Far North Queensland, 2009/2010



Julie Carmody and Bruce Prideaux



Australian Government
Department of the Environment,
Water, Heritage and the Arts



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Sustainable Nature Based Tourism: Planning and Management

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Lake Tinaroo, Far North Queensland, 2009/2010**

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Australian Government
**Department of the Environment,
Water, Heritage and the Arts**

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March 2011

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Acronyms and Abbreviations

DERM	Queensland Department of Environment and Resource Management
EPA	.....	Queensland Environmental Protection Agency
ILUA	.....	Indigenous Land Use Agreement
MTSRF	.....	Marine and Tropical Sciences Research Facility
N	.....	Entire survey sample
n	.....	Portion of survey sample
QPWS	.....	Queensland Parks and Wildlife Service
WTMA	Wet Tropics Management Authority
WTWHA	Wet Tropics World Heritage Area

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Key Findings

The following key findings are based on a visitor survey (N = 229) undertaken at Lake Tinaroo between December 2008 and August 2009. Where findings are reported as a mean, 1 represents the lowest level of agreement with given statements by survey respondents, while 6 represents the highest level of agreement.

Respondent Profile

- Most visitors surveyed were North Queensland residents (85.7%).
- The mean age of respondents was 38.5 years.
- Based on travel party composition, the largest group of respondents comprised two adults travelling without children, followed by couples travelling with up to three children.

Travel Patterns

- Respondents mostly travelled from their home (30.6%), Cairns (15.9%), Atherton (8.2%) and Mareeba (7.6%).
- Respondents leaving Lake Tinaroo indicated they would be travelling home (47.3%) and to Cairns (20.3%).
- Previous visits (71.9%) and word-of-mouth (37.5%) were the main sources of prior information about Lake Tinaroo used.

Reasons for Visiting Lake Tinaroo

- The main reasons for visiting Lake Tinaroo were to rest and relax (mean = 5.27) and socialise with family and friends (5.04).
- The activities undertaken by visitors were mostly camping (87.5%), relaxing (73.1%), swimming (61.5%), picnics/barbeques (57.8%) and other activities such as boating and water sports (49.3%).

Perceptions of the Natural Environment

- Sites at Lake Tinaroo were considered appealing in terms of scenic beauty and natural attractions (mean = 5.26) and in good condition (5.12).

Perceptions and Use of the Site Facilities

- The facilities provided at Lake Tinaroo visitor sites are considered to be appealing in terms of character and attractiveness (mean = 4.88) and in reasonable condition (4.85).
- Visitors considered that a ranger at Lake Tinaroo would assist site maintenance (71.2%).
- Toilets and showers (94.3%), rubbish bins (61.2%), fireplaces (49.3%) and taps (43.2%) were the most used facilities.
- Visitors had expected facilities to include hot showers, rubbish bins at some sites, firewood, and lighting in the toilets.

Perceptions of Signage

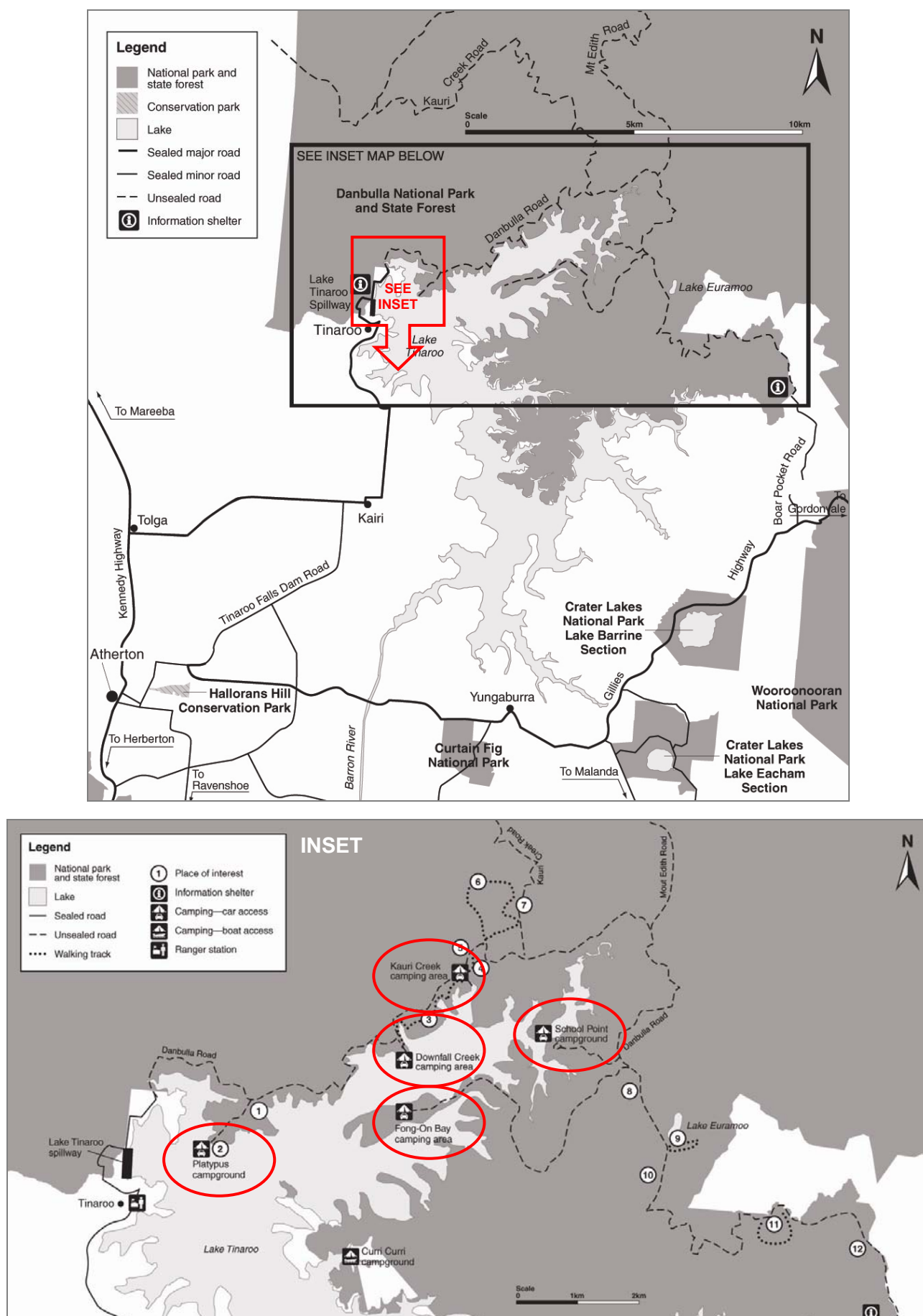
- Signage was considered adequate in terms of easiness to find (mean = 4.83) and the rules and safety information was easy to understand (4.81).
- Signage about the Aboriginal culture of the area could be improved (mean = 2.96).

Satisfaction with the Visitor Experience

- Aspects which enhanced the visitor experience were mostly related to the facilities and psycho-social aspects such as the peace and tranquillity, the beauty of the area and the opportunity to socialise with friends and family.
- Noise pollution, the inability to use generators and the lack of showers detracted from some people's enjoyment of the site.
- Overall satisfaction with Lake Tinaroo as a visitor destination is very high.



DANBULLA NATIONAL PARK AND STATE FOREST



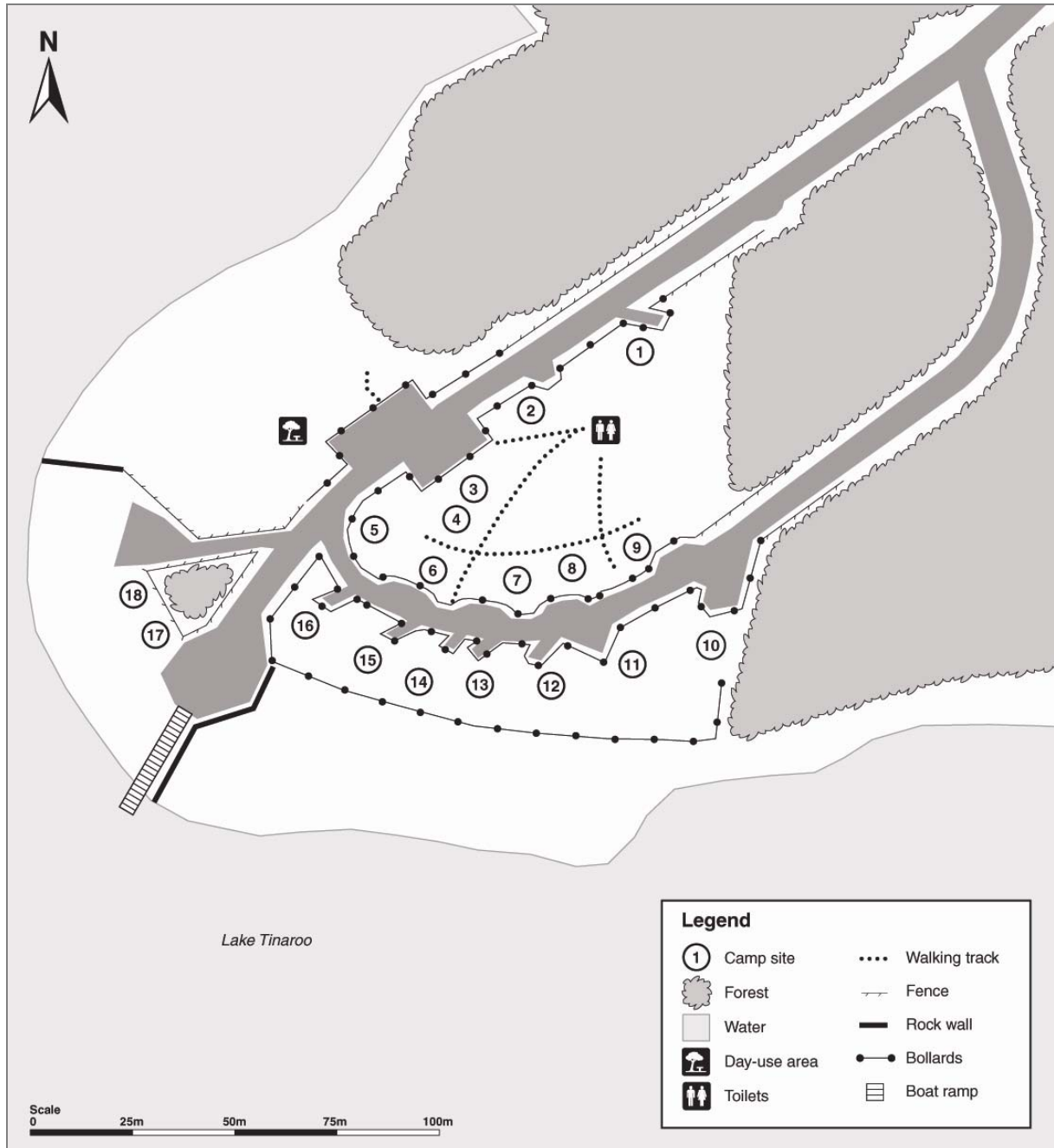


Figure ii: Platypus Rock campground on Lake Tinaroo within Danbulla State Forest. Map courtesy of Queensland Parks and Wildlife Service, Department of Environment and Resource Management.

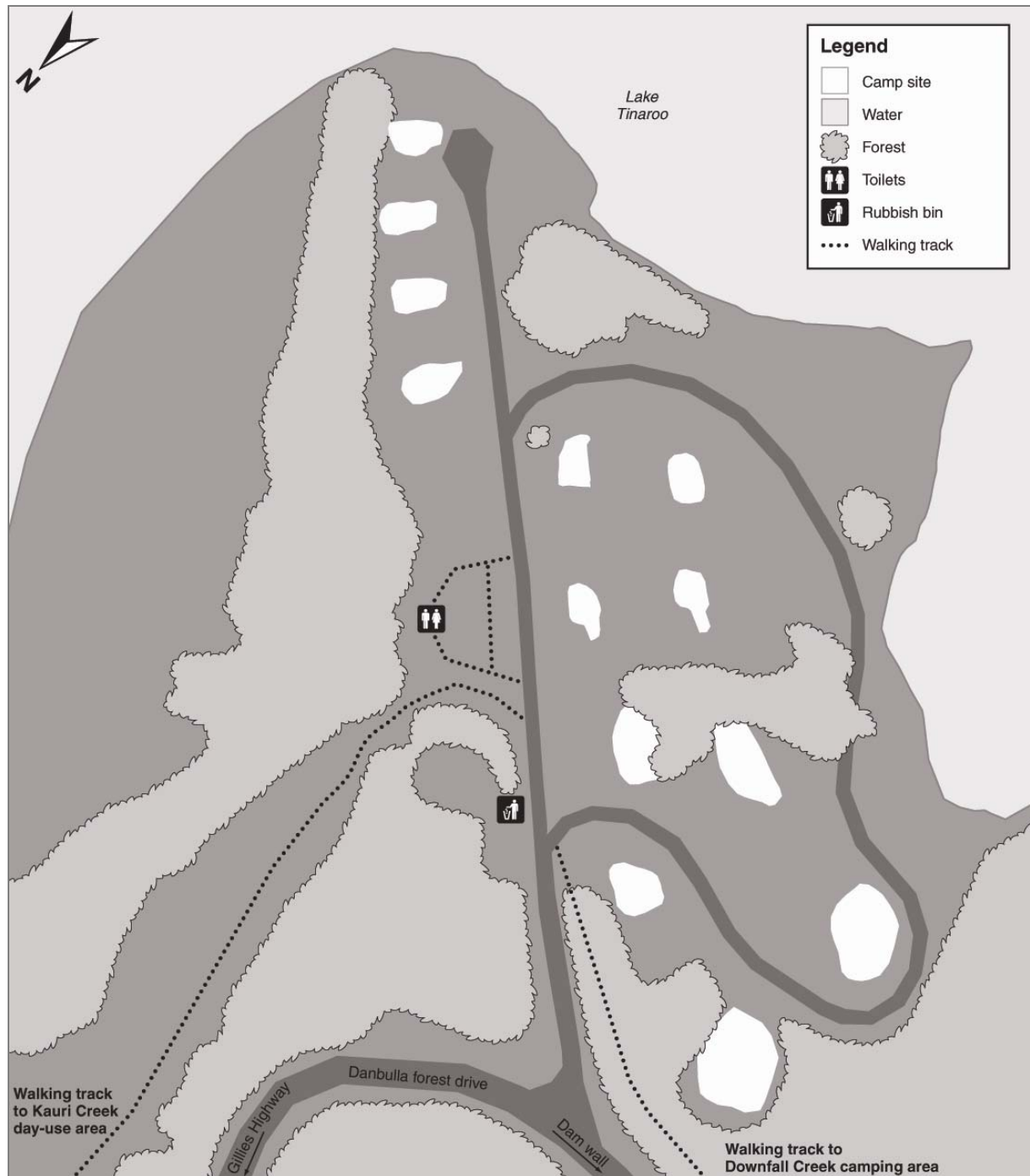


Figure iii: Kauri Creek camping area on Lake Tinaroo within Danbulla State Forest. Map courtesy of Queensland Parks and Wildlife Service, Department of Environment and Resource Management.

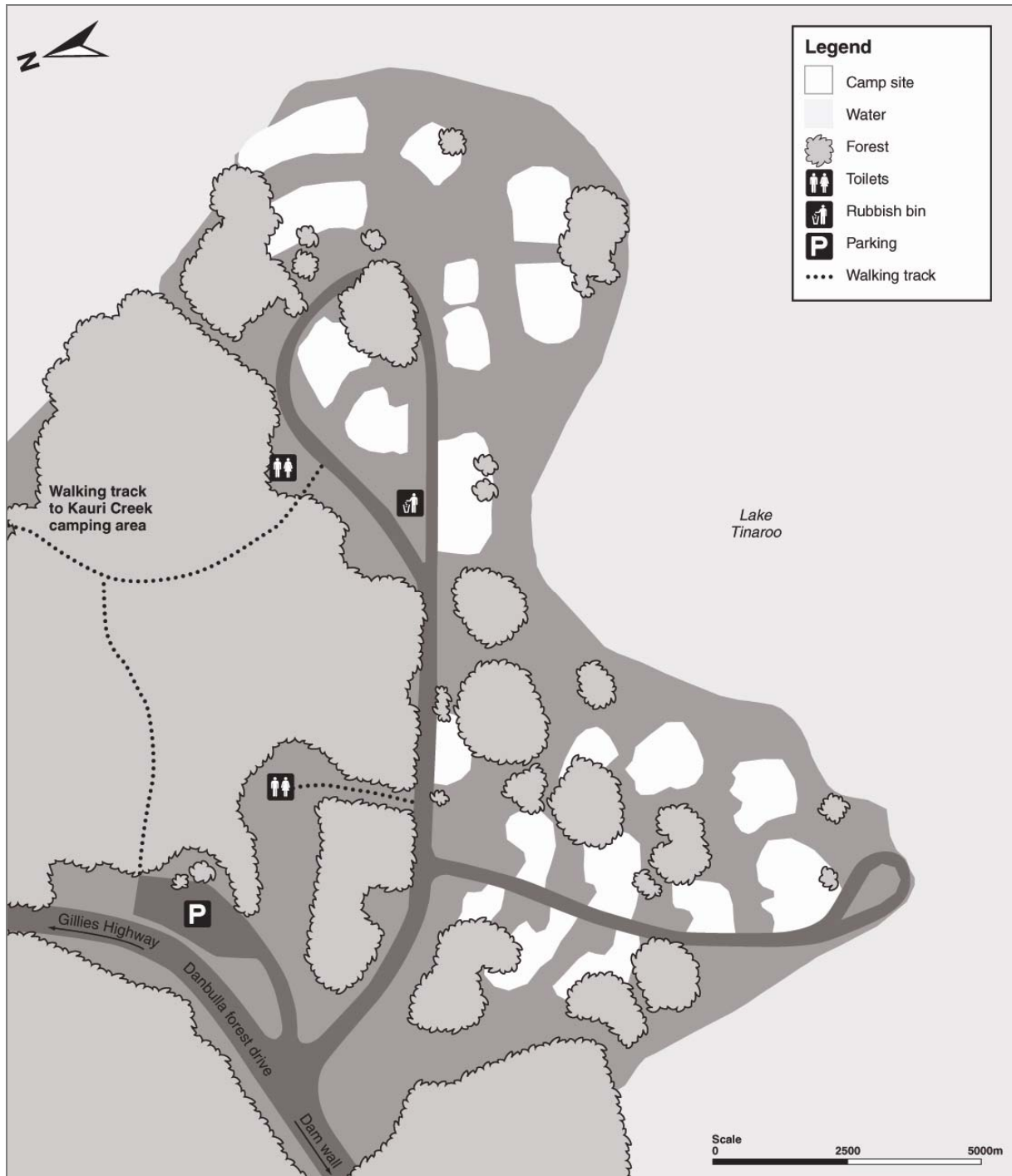


Figure iv: Downfall Creek camping area on Lake Tinaroo within Danbulla State Forest. Map courtesy of Queensland Parks and Wildlife Service, Department of Environment and Resource Management.

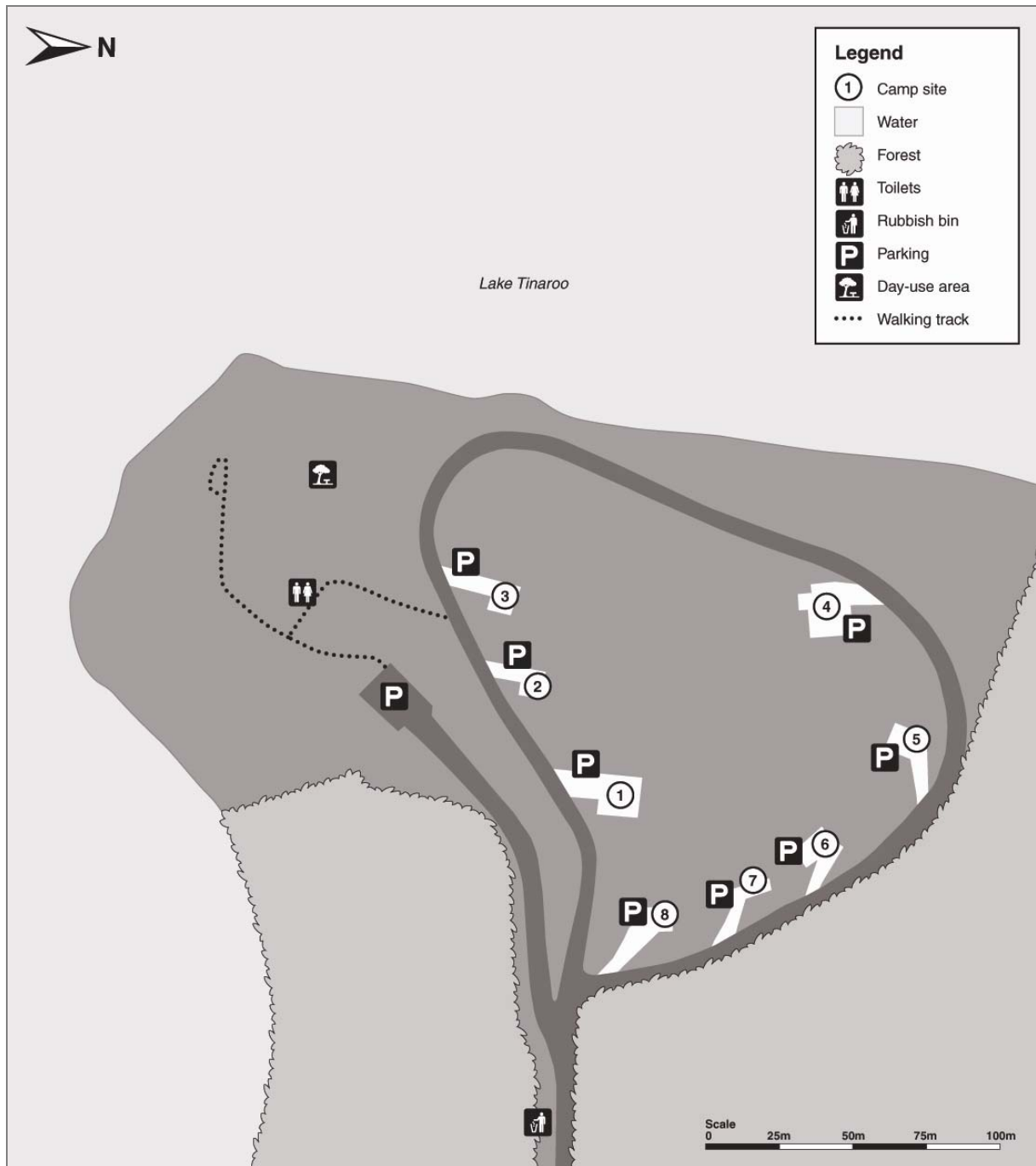


Figure v: School Point campground on Lake Tinaroo within Danbulla State Forest. Map courtesy of Queensland Parks and Wildlife Service, Department of Environment and Resource Management.

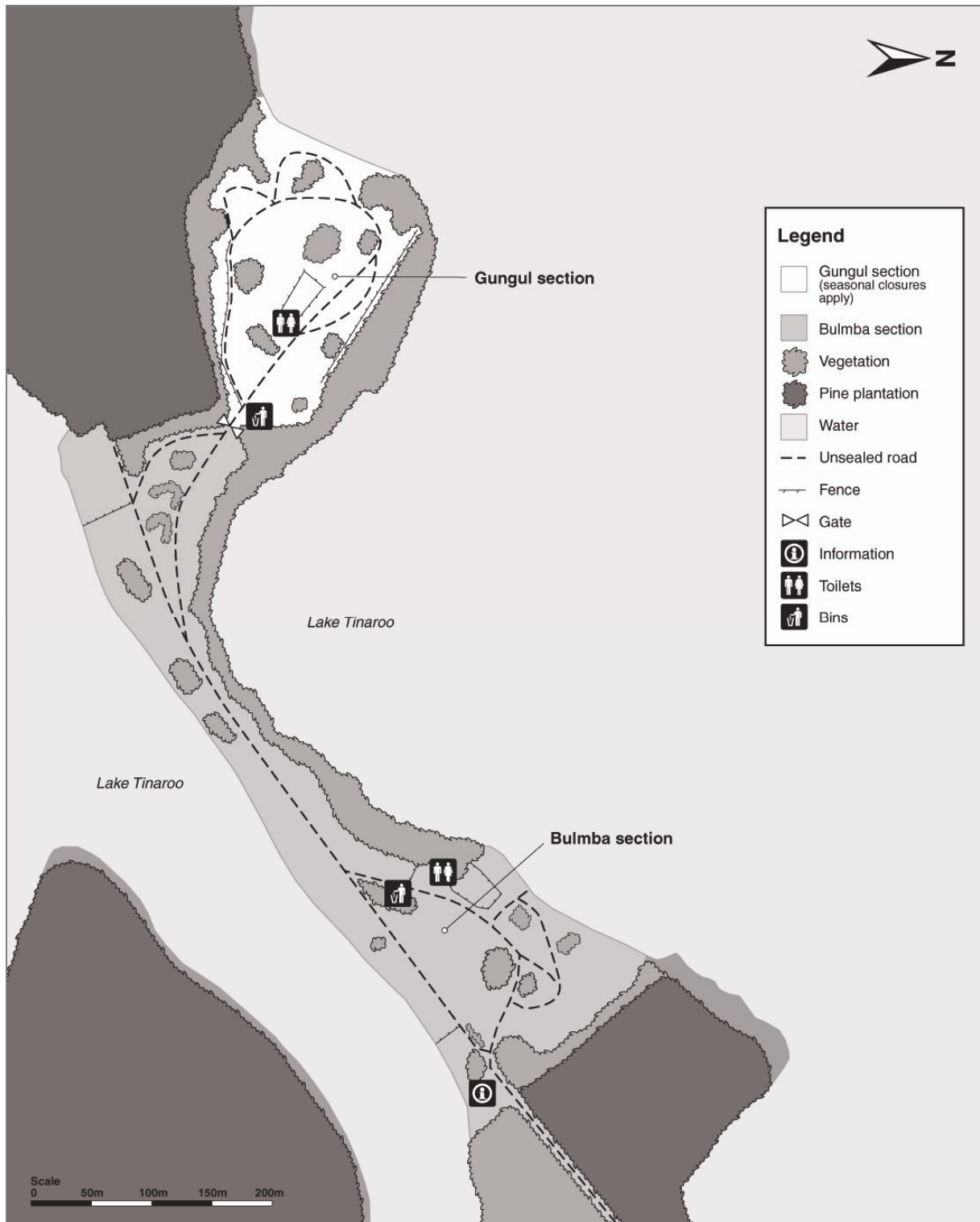


Figure vi: Fong-On Bay camping area on Lake Tinaroo within Danbulla State Forest. Map courtesy of Queensland Parks and Wildlife Service, Department of Environment and Resource Management.

1. Introduction

This report is one of a series of ten that examine visitor activity at sites within Wet Tropics rainforests. The aim of the research was to provide a snapshot of visitor activity to inform management on how sites are used and investigate visitors' views on site management. Visitor data was collected using a self-completed visitor survey. Collectively the series of reports will provide an overall understanding of how visitors use the rainforest and provide managers with feedback that can be used for site management and future planning.

Responsibility for the management of the Wet Tropics rainforests is shared by the Wet Tropics Management Authority (WTMA) and the Queensland Department of Environment and Resource Management (DERM). The WTMA was established after listing of the Wet Tropics as a World Heritage site and is responsible for the planning of visitor sites across the Wet Tropics World Heritage Area (WTWHA). The Queensland Parks and Wildlife Service (QPWS), an agency of the DERM, has responsibility for the day to day management of site infrastructure including toilets, car parking, signage, viewing lookouts, boardwalks, walking trails and other recreational facilities. The Wet Tropics has a large number of visitor sites, some of which have high rates of visitation. A number of sites have relatively low visitation rates, but all offer unique nature-based visitor experiences.

1.1 Site Location and Description

Lake Tinaroo is a popular camping, fishing and water sports area located on the Atherton Tablelands. Campsites at Lake Tinaroo are accessed from Danbulla Forest Drive, a 28 kilometre unsealed road that runs from Boar Pocket Road near the top of the Gillies Highway to the vicinity of the township of Kairi (see Figure i).

Lake Tinaroo was formed after the damming of the Barron River in 1959. Taking six years to build, the dam has a capacity of 400,000 megalitres and is used primarily for irrigation. At maximum capacity the dam has more than 200 kilometres of shoreline, making it an ideal recreation site. The eastern and northern sections of the lake abut Danbulla National Park and State Forest, which encompasses more than 12,000 hectares of pine plantations and eucalypt and acacia forests, and are included in the Wet Tropics World Heritage Area.

The traditional owners of Danbulla are two clan groups of the Yidinji people – the Dulguburra Yidinji and the Tableland Yidinji. Danbulla Forest Drive follows one of the former walking tracks used by the Yidinji to collect seasonal food and to attend ceremonies. Commercial farming began in 1917 and during World War II the area was used as a military training area by Australian and US forces.

Five lakeside campgrounds are accessible from Danbulla Forest Drive: Platypus Rock (18 campsites); Kauri Creek (accommodating up to 100 people); Downfall Creek (up to 200 people); School Point (8 campsites); and Fong-on-Bay (up to 250 people). These campgrounds are available for day use as well as overnight camping and are maintained by QPWS rangers. Campsite bookings can be made on-site using the self-registration booths or online via the DERM website.

1.2 Previous Research

A previous study of visitor use of the area was conducted by Manidis Roberts Consultants in 1993/1994. Sites included in the study were the Cathedral Fig, Mobo Crater, Lake Euramo and Kauri Creek. Campsites included in the current visitor survey had not been formally established at the time of the Manidis Roberts survey.

Manidis Roberts (1994) reported the estimated visitor use of the Danbulla Forest Drive conglomerate to be 155,597 visitors and 45,663 vehicles in 1993. Vehicle numbers were estimated using vehicle counters placed at the dam wall end of Danbulla Forest Drive and at a site in the vicinity of the Cathedral Fig Tree. Interviewer observations were used at the dam wall end. Results indicate that the majority of visitors were travelling independently ($n = 165$) as couples or with family in a private two-wheel drive vehicle. The average length of time spent on Danbulla Forest Drive was 1.24 hours and more than 60% of visitors at the time were on their first visit to the area. Most respondents had travelled from either Cairns or the Atherton Tablelands. More than 70% of visitors were residents of Townsville, or north Queensland generally. The most significant reasons given for visiting the area were to be close to nature, to spend a day out with family and friends, tranquillity and to see the WTWHA. The rainforest, birdlife and tranquillity enhanced the visit however poorly maintained roads detracted from the visit. Photography, birdwatching, scenic viewing, strolling, picnicking and nature studies were the main activities undertaken. Fifty-seven percent of respondents were extremely satisfied with their visit, indicating that peace and tranquillity, the natural environment and the site's presentation had enhanced their visit.

1.3 Traffic Counter Data

The most recent average annual visitor use of Lake Tinaroo based on data collected at the dam wall was 536,806 in 1997 and 526,617 in 1998 (Environmental Protection Agency, 2002). Traffic monitoring at Lake Tinaroo is not undertaken on a regular basis and so only limited information exists on total visitor numbers.

Camping registration data collected by the QPWS does give some indication of visitor site activity in recent years. Figure 1 provides a comparison of the number of campers at each site for 2007 to 2009. Downfall Creek, Fong-on-Bay and Kauri Creek have each experienced a steady increase in camper numbers each year.

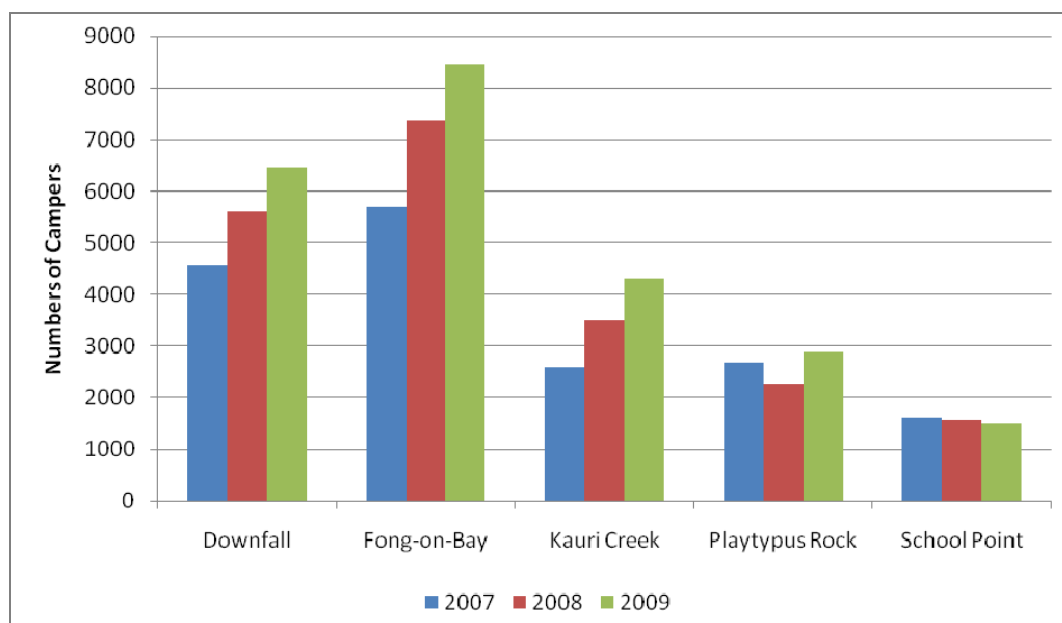


Figure 1: Numbers of visitors who camped at Lake Tinaroo campgrounds in 2007, 2008 and 2009. Data courtesy of Queensland Parks and Wildlife Service, DERM.

Figure 2 illustrates the camper numbers each month per campsite in 2009. Visitation to Lake Tinaroo campsites was lowest in March, August and November. Peak periods generally correspond with Queensland school holiday periods of January, April, September and December. Long weekends including public holidays also experience peak visitation periods, with the exception of the June/July school holidays when visitation is not as high, most probably due to the cooler weather at Lake Tinaroo during the winter months.

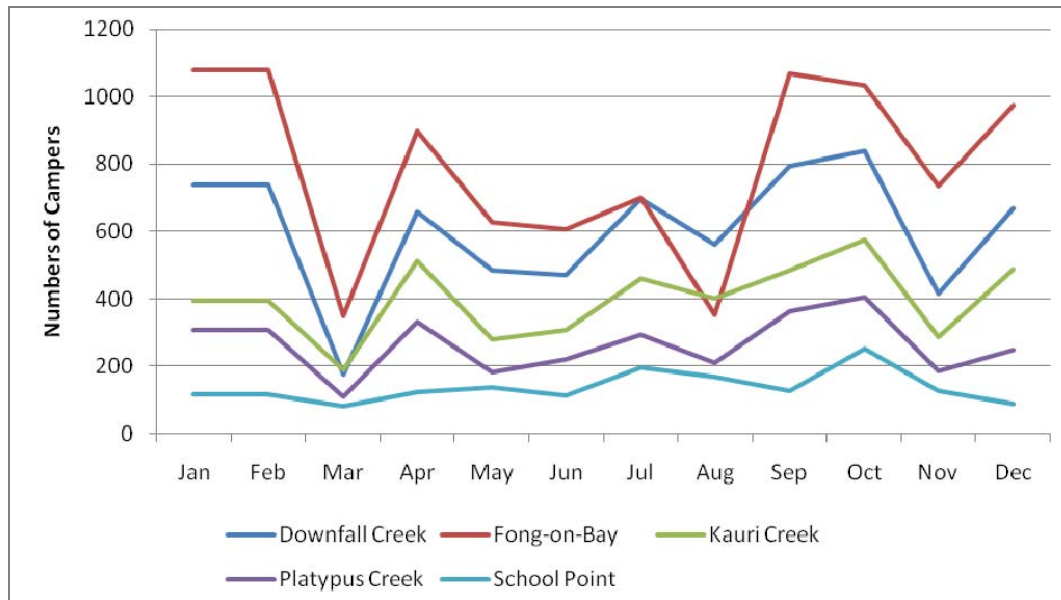


Figure 2: Numbers of visitors who camped at Lake Tinaroo campgrounds per month in 2009. Data courtesy of Queensland Parks and Wildlife Service, DERM.

2. Methodology

The aims of this report are to:

- Investigate visitor activities undertaken at Lake Tinaroo; and
- Identify visitors' views about aspects of the site including its management.

Specific objectives of the research were to:

- Provide a snapshot profile of visitors to the Lake Tinaroo;
- Understand visitors' perceptions of the management of the site;
- Understand visitors' perceptions of the natural environment at the site;
- Gain an understanding of visitors' travel patterns within the Wet Tropics region; and
- Assess the suitability of the interpretative information provided at the site.

A convenience sampling technique was used and data was analysed with the SPSS v17 statistical package.

This research complements earlier research (Carmody and Prideaux, 2008) that investigated how local residents used the Wet Tropics and their views on its management.

2.1 Survey Instrument

To collect data on a range of issues related to visitor expectations and experiences, a survey (Appendix 1) was developed in conjunction with officers from the WTMA. The survey instrument was based on a previous survey used in 2001/2002 which enabled some general comparisons to be made with earlier research. The self-completed survey contained 29 closed and open-ended questions and provided space for respondents to write additional comments. Open-ended questions were used because they can test specificity of knowledge more effectively (as shown by Whitmarsh, 2009), provide richer responses (Altinay and Paraskevas, 2008) and can minimise social desirability bias (Budeanu, 2007). Survey questions were grouped into eight sections commencing with demographic data. Table 1 outlines the components of the survey. Survey staff recorded site details including location, date, time of collection and weather conditions on the front cover of the survey instrument.

Table 1: Components of the Lake Tinaroo visitor survey.

Section A	Background information	Place of residence, occupation, education, age, gender
Section B	Travel and transport	Organised tour or free and independent traveller, travel party, mode of transport, pre- and post-visit of site, experience of protected natural areas
Section C	Reasons for visiting	Motivations, activities, time spent at site, willingness to pay
Section D	Natural environment	Perceptions of the natural environment
Section E	Site facilities	Use of site facilities, expectations of facilities, perceptions of facilities, ranger presence
Section F	Information	Prior information search, perceptions of on-site information, additional information required
Section G	Visitor experience	Aspects of visit that enhanced and detracted from experience, perceptions of crowding
Additional comments		Open-ended to allow for any comments and feedback

2.2 Survey Collection

Surveying was undertaken at Lake Tinaroo at each of the five designated campgrounds (Platypus Rock, Kauri Creek, Downfall Creek, School Point and Fong-On Bay; Figures i-vi). Two experienced research assistants systematically visited each campground beginning at either Platypus Rock or Fong-On Bay using a convenience sampling technique. Researchers explained the purpose of the survey and indicated the approximate time it would take to complete. A postcard or WTMA cassowary sticker was offered as a token of appreciation on completion. Table 2 outlines the schedule and collection of surveys at Lake Tinaroo. Surveys were collected over four days between 9.00 am and 6.00 pm between December 2008 and August 2009. The collection period included three holiday periods, including 28 December 2008 (the Christmas/New Year period) and the Queensland Queen's Birthday long weekend (7-8 June 2009), as well as 21 August as an off-holiday period. Collection of surveys during this period ensured that the views of local residents, a major user group of these sites, were also recorded.

Table 2: Lake Tinaroo visitor survey collection times and details (N = 229).

Date	Day	Weather	Visitor Frequency	Percent of Total
28 December 2008	Sunday	Not recorded	81	35.4
7 June 2009	Sunday	Not recorded	80	34.9
8 June 2009	Monday	Not recorded	34	14.8
21 August 2009	Friday	Not recorded	34	14.8
Total			229	100.0

Figure 3 illustrates the survey timetable. The greatest number of surveys was collected between the hours of 2:00 and 6:00 pm on 7 June 2009.

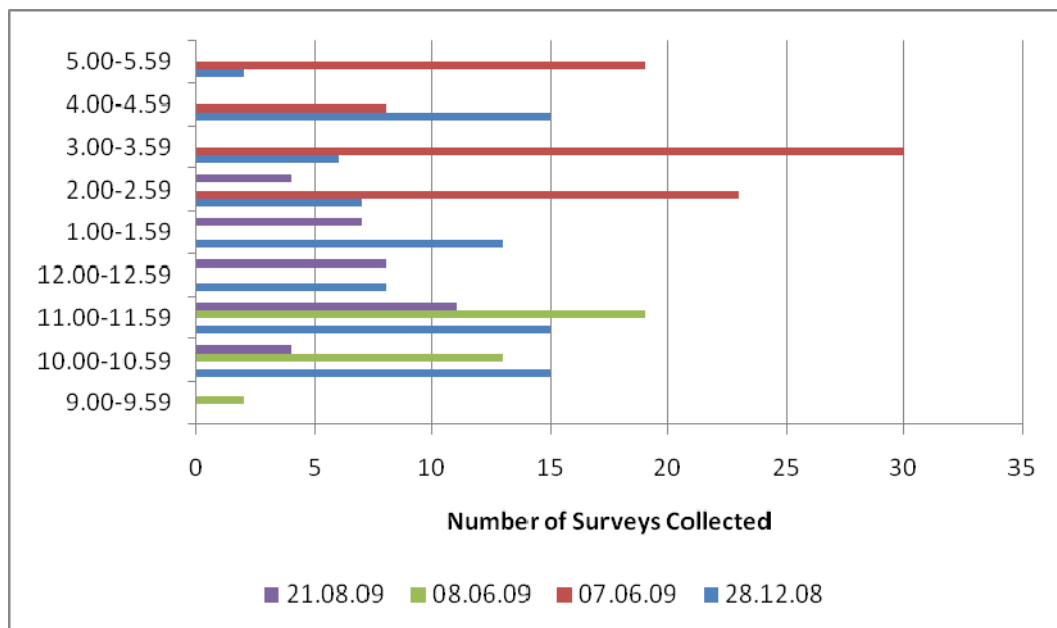


Figure 3: Surveys collected at Lake Tinaroo by date and time (N = 229).

Table 3 provides the breakdown of survey collection by date, time and location. The size of the campground determined the number of surveys collected. Both Downfall Creek and Fong-On Bay are high visitation sites and therefore more surveys were collected at these sites.

Table 3: Lake Tinaroo survey collection statistics by date, time and location (N = 229).

Site / Date	Time period									Total surveys collected
	A.M.			P.M.						
	9:00-9:59	10:00-10:59	11:00-11:59	12:00-12:59	1:00-1:59	2:00-2:59	3:00-3:59	4:00-4:59	5:00-5:59	
Platypus Rock										
28 December 2008	-	4	-	-	-	-	-	-	-	4
7 June 2009	-	-	-	-	-	-	-	-	-	-
8 June 2009	2	12	-	-	-	-	-	-	-	14
21 August 2009	-	1	-	-	-	-	-	-	-	1
Kauri Creek										
28 December 2008	-	-	-	2	11	-	-	-	-	13
7 June 2009	-	-	-	-	-	-	-	-	19	19
8 June 2009	-	-	-	-	-	-	-	-	-	-
21 August 2009	-	-	2	5	-	-	-	-	-	7
Downfall Creek										
28 December 2008	-	11	15	6	-	-	-	-	-	32
7 June 2009	-	-	-	-	-	-	-	-	-	-
8 June 2009	-	1	19	-	-	-	-	-	-	20
21 August 2009	-	3	9	-	-	-	-	-	-	12
School Point										
28 December 2008	-	-	-	-	2	6	-	-	-	8
7 June 2009	-	-	-	-	-	-	-	8	-	8
8 June 2009	-	-	-	-	-	-	-	-	-	-
21 August 2009	-	-	-	2	-	-	-	-	-	2
Fong-On Bay										
28 December 2008	-	-	-	-	-	1	6	15	2	24
7 June 2009	-	-	-	-	-	23	30	-	-	53
8 June 2009	-	-	-	-	-	-	-	-	-	-
21 August 2009	-	-	-	1	7	4	-	-	-	12
Total	2	32	45	16	20	34	36	23	21	229

2.3 Non-response and Observations

Refusals to complete the survey were recorded on-site and are presented in Table 4. Of the 265 people approached to complete the survey, 13.6% refused (n = 36). A lack of interest in completing the survey was the main reason given for not participating (10.9%).

Table 4: Reasons given for not participating in the Lake Tinaroo visitor survey (n = 36).

Reason for not participating in survey	Frequency (n)	Percentage of total number of people approached (n = 265)
Not interested	29	10.9
Just arrived	3	1.1
Completed a survey here before	2	0.8
Language barrier	1	0.4
Just leaving	1	0.4
Non-Response	36	13.6

2.4 Limitations

There were some limitations associated with the research that should be considered prior to generalising the results:

- First, the survey was conducted using a convenience sampling approach and may not be representative of all visitor segments using the site;
- Second, the sample size was limited by time and budget constraints;
- Third, the survey was only available in English, resulting in a possible under-reporting of some nationalities visiting the site; and
- Fourth, there was potential for social desirability bias occurring where respondents offered answers that are seen to be desirable or acceptable but may not reflect their true opinions. In most cases it is difficult to determine the level of social desirability for any given question.

All visitors surveyed at Lake Tinaroo were free and independent travelers.

Understanding the Results

Both closed questions with specific response options and open-ended questions were used in the visitor survey. The advantage of closed questions is that it allows the researcher to investigate specific issues of interest while open-ended questions provide a good indication of top-of-mind responses and concerns of interviewees. Closed response questions generally asked respondents to use a six-point Likert scale. In the following discussion, the results of closed questions are reported as means and as the percentage breakdown by the six items on the Likert scale. Means are useful for ranking in order of importance while percentage breakdown gives a clearer indication of the strength of agreement or disagreement with a particular given statement. The following discussion should be read with these considerations in mind. It should also be noted that not every question was answered by all respondents, thus the 'n' values of tables and figures may vary. The 'n' value reports valid responses. The 'N' value reports the entire sample.

3. Findings

The results presented in this report are from the Wet Tropics Visitor Site Level Survey distributed at Lake Tinaroo campsites between December 2008 and August 2009.

3.1 Respondent Profile

The following results provide a profile of visitors surveyed at Lake Tinaroo campsites. Results are reported overall and by campsite/day use site. More females (61.4%) than males (38.6%) completed the survey.

Place of Residence

Respondents' places of residence are provided in Table 5. The majority of respondents were from north Queensland (85.7%) with 7.2% from other areas of Queensland followed by 3.6% from New South Wales. Only three international respondents (1.3% of the sample) were surveyed.

Table 5: Origin of Lake Tinaroo survey respondents (n = 224).

	Frequency (n)	Percent (%)
DOMESTIC		
North Queensland	192	85.7
Other Queensland	16	7.2
New South Wales	8	3.6
Victoria	4	1.8
South Australia	1	0.4
Domestic Total	221	98.7
INTERNATIONAL		
Europe	2	0.9
New Zealand	1	0.4
International Total	3	1.3
Total Domestic and International	224	100.0

Occupation

The occupation of respondents is provided in Figure 4. The largest group was professionals (15.3%), followed by those who were self-employed (11.8%), tradespersons (11.8%) and retirees/semi-retirees (11.4%).

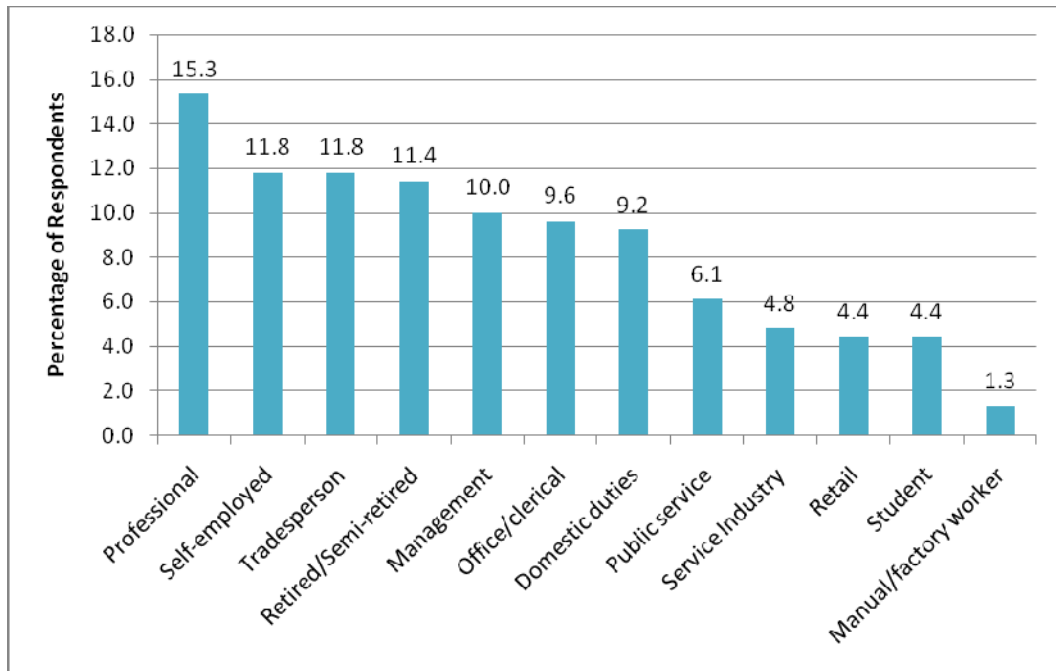


Figure 4: Occupations of Lake Tinaroo survey respondents (n = 229).

Figure 5 shows the respondent's occupation by Lake Tinaroo campsite. The largest group of retired/semi-retired respondents was surveyed at Downfall Creek (5.2%), while the largest group of professionals was surveyed at Fong-On Bay (7.0%).

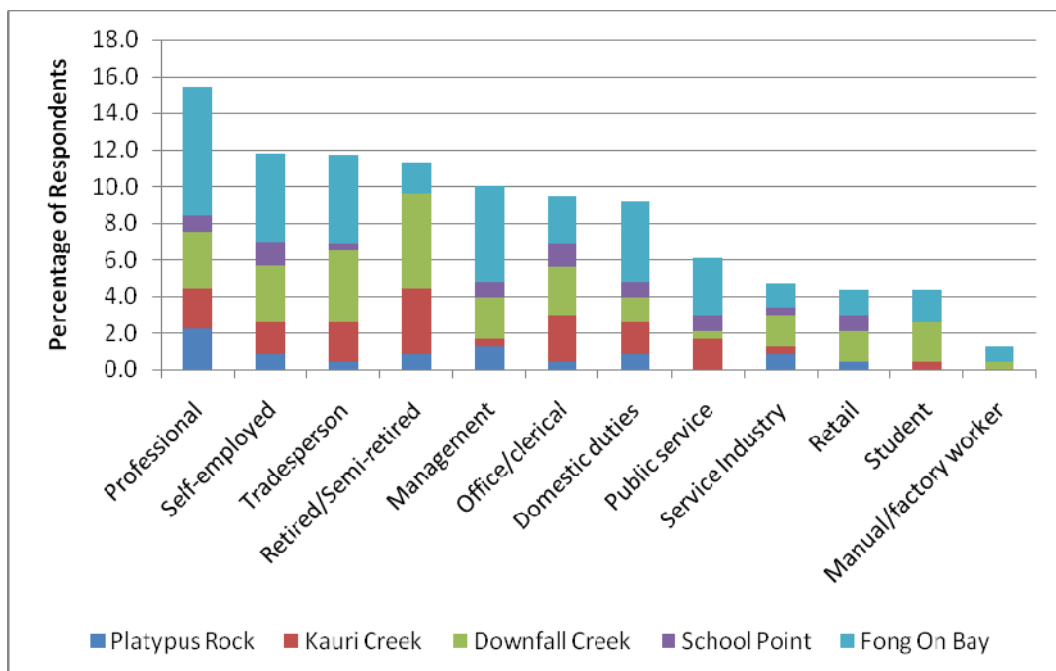


Figure 5: Occupations of Lake Tinaroo respondents by survey collection site (n = 229).

Age

Figure 6 highlights the age ranges of respondents by whether they were domestic or international visitors. The largest group of respondents was aged 30-39 years (26.3%), followed by those aged 20-29 years (22.4%) and 40-49 years (21.5%). The mean age of the sample was 38.5 years, with a range of 16 to 79 years. The standard deviation was 14.3 years.

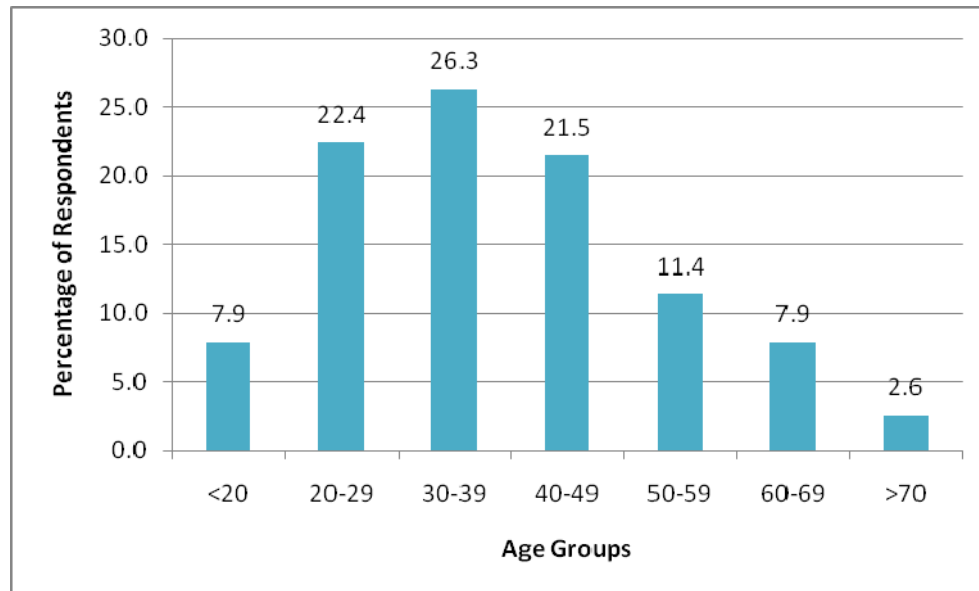


Figure 6: Age groups of Lake Tinaroo survey respondents (n = 228).

A comparison of respondents based on age and campground is outlined in Figure 7. It is apparent that Fong-On Bay attracts visitors aged less than 20 years to 49 years, in particular the 30-39 year age group (10.5%). None of the visitors surveyed at School Point were aged over 60 years. The major age groups surveyed at Downfall Creek were 60-69 years (5.7%), 40-49 years (5.7%), 20-29 years (5.7%) and 30-39 years (5.3%).

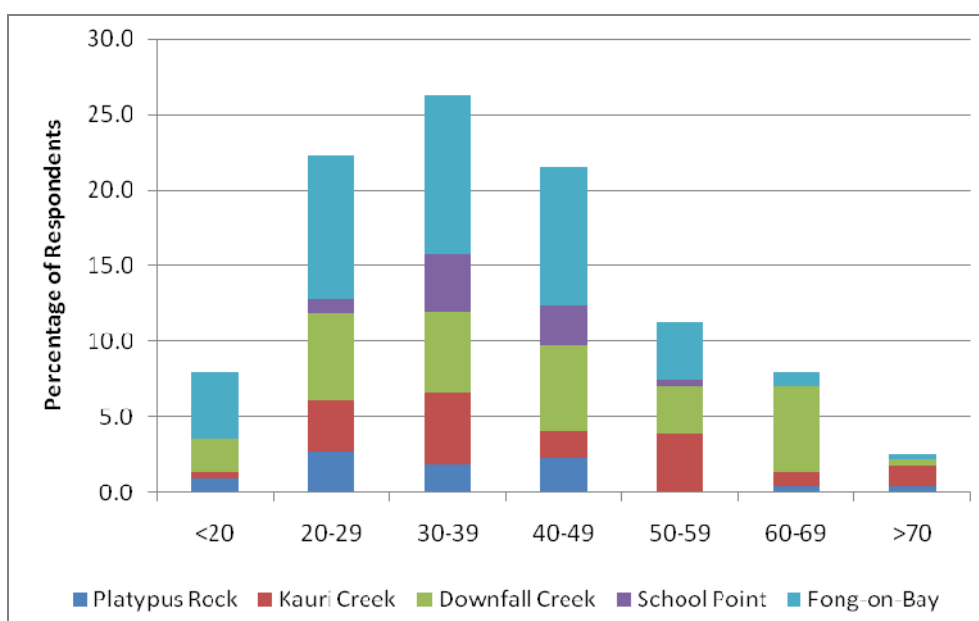


Figure 7: Age groups of Lake Tinaroo respondents by survey collection site (n = 228).

Education

Figure 8 highlights survey respondents' education levels, where Tertiary A is defined as technical or further education, and Tertiary B is defined as a university qualification. For the whole sample, 45.6% of respondents reported having a secondary qualification followed by 32.1% who reported having a Tertiary A qualification. Only 16.0% of respondents reported holding a Tertiary B qualification.

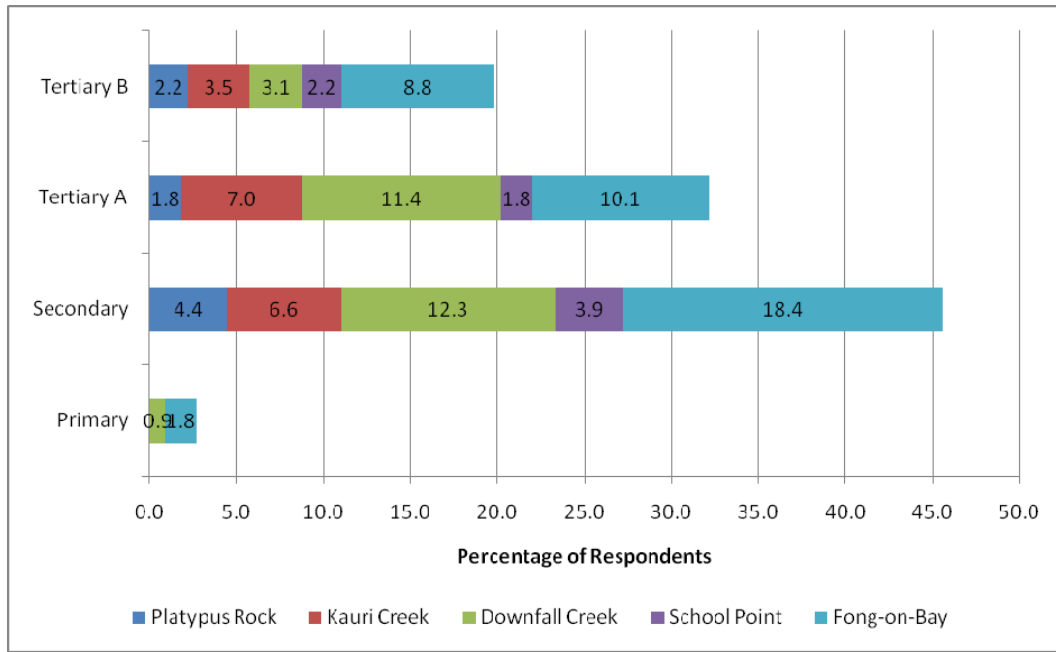


Figure 8: Levels of education attained by Lake Tinaroo respondents by survey collection site (n = 228).

A cross-tabulation analysis of respondents' age and education is provided in Table 6. The largest groups of respondents held a secondary education and were aged 30-39 years (11.5%) and 40-49 years (10.1%). The largest group holding a Tertiary B education was aged 20-29 years (6.2%).

Table 6: Respondents' age and education (n = 227).

Age Group	Primary (%)	Secondary (%)	Tertiary A (%)	Tertiary B (%)
< 20 years	1.8	4.4	1.8	0
20-29 years	-	8.4	7.9	6.2
30-39 years	0.4	11.5	9.3	5.3
40-49 years	-	10.1	5.7	5.7
50-59 years	-	4.8	4.4	2.2
60-69 years	0.4	4.0	2.6	0.4
> 70 years	-	2.2	0.4	-
Total Respondents (n=290)	2.6% (n = 6)	45.4% (n = 103)	32.2% (n = 73)	19.8% (n = 45)

Travel Party and Mode of Transport

The majority of respondents travelled as a party of two adults without children ($n = 63$). The next largest group was families with two adults and two children ($n = 35$). The average number of adults per vehicle was 2.15 (Table 7). Almost all respondents who indicated their mode of transport ($n = 208$) had travelled to Lake Tinaroo by private vehicle (99.5%).

Table 7: Composition of visitor travel parties to Lake Tinaroo ($n = 183$).

	1 adult	2 adults	3 adults	4 adults	5 adults	6+ adults
0 children	6	63	9	2	2	1
1 child	3	13	4	1	-	-
2 children	5	35	5	-	-	-
3 children	5	18	2	-	-	-
4 children	1	4	-	1	-	-
5 children	-	1	-	-	-	-
6 children	-	-	-	2	-	-
Adults per vehicle $2.15 \pm \text{SD } 0.81$ (range 1-7)						
Children per vehicle $1.24 \pm \text{SD } 1.36$ (range 0-6)						

Organised Tour Visitors

Only one respondent indicated they were with an organised tour, reported to be 'The errys'. This respondent was surveyed at Fong-On Bay on 7 June 2009.

Travel Flow

Respondents were asked about their travel patterns on the day of the survey, including where they had been and where they intended to go after leaving the site. Results are outlined in Tables 8 and 9. Just under a third of respondents (30.6%) reported that they had come from 'home' without specifying where home was. The remaining respondents had arrived at the site from Cairns (15.9%), followed by Atherton (8.2%) and Mareeba (7.6%). A number of other north Queensland towns were also mentioned. Only two respondents indicated they had come from another natural attraction, in this case Granite Gorge and Henrietta Creek.

Table 8: Visitors' reported previous stop before arriving at Lake Tinaroo (n = 170).

	Frequency (n)	Percent (%)
Towns		
Cairns	27	15.9
Atherton	14	8.2
Mareeba	13	7.6
Tolga	7	4.1
Townsville	7	4.1
Tinaroo township	5	2.9
Kairi	4	2.3
Port Douglas	4	2.3
Yungaburra	4	2.3
Cooktown	3	1.8
Karumba	3	1.8
Edmonton	2	1.2
Malanda	2	1.2
Mossman	2	1.2
Cardwell	1	0.6
Daintree	1	0.6
Darwin	1	0.6
Ellis Beach	1	0.6
Gold Coast	1	0.6
Lakefield	1	0.6
Mt Surprise	1	0.6
Palm Island	1	0.6
Ravenshoe	1	0.6
Rollingstone	1	0.6
Tablelands	1	0.6
Natural Attractions		
Granite Gorge	1	0.6
Henrietta Creek	1	0.6
Other		
Home	52	30.6
Nowhere/ first stop	7	4.1
New Zealand	1	0.6
Total	170	100.0

After leaving Lake Tinaroo, survey respondents indicated (Table 9) they would travel home (47.3%), to Cairns (20.3%) and to Townsville (5.3%). Only one percent of respondents reported an intention of visiting another natural attraction. The larger number of respondents who indicated that they would be returning home (47.3%), when compared to those who indicated travelling from home (30.6%) may be the result of some respondents stopping at towns such as Atherton and Mareeba to pick up camping supplies on their way to Lake Tinaroo.

Table 9: Intention of survey respondents to visit other places within the region after Lake Tinaroo (n = 207).

	Frequency (n)	Percent (%)
Towns		
Cairns	42	20.2
Townsville	11	5.3
Atherton	4	1.9
Mareeba	4	1.9
Millaa Millaa	3	1.4
Mission Beach	3	1.4
Mossman	3	1.4
Gold Coast	2	1.0
Malanda	2	1.0
Port Douglas	2	1.0
Ravenshoe	2	1.0
Wonga Beach	2	1.0
Yungaburra	2	1.0
Cooktown	1	0.5
Edmonton	1	0.5
Emerald	1	0.5
Innot Hot Springs	1	0.5
Julatten	1	0.5
Karumba	1	0.5
Kurramine	1	0.5
Mungalli	1	0.5
Palm Island	1	0.5
Rollingstone	1	0.5
Tolga	1	0.5
Trinity Beach	1	0.5
Tully	1	0.5
Natural Attractions		
Undara Experience (Lava tubes)	2	1.0
Crater Lakes	1	0.5
Other		
Home	98	47.2

	Frequency (n)	Percent (%)
Don't know	3	1.4
Staying here	3	1.4
Bottleshop	2	1.0
New South Wales	1	0.5
Restaurant	1	0.5
South	1	0.5
Total	207	100.0

Visits to Protected Natural Areas

Respondents were asked about the frequency of their visits to protected natural areas. These results provide an indication of respondents' use of protected natural areas. Figure 9 indicates that overall 47.0% of respondents visit natural areas 2-5 times per year, while 43.4% visit more than five times per year. Sites with a larger carrying capacity, that is, Fong-On Bay and Downfall Creek, appear to attract respondents who visit protected natural areas more frequently. No significant differences were found between the campsite used and the reported frequency of visitation to protected areas.

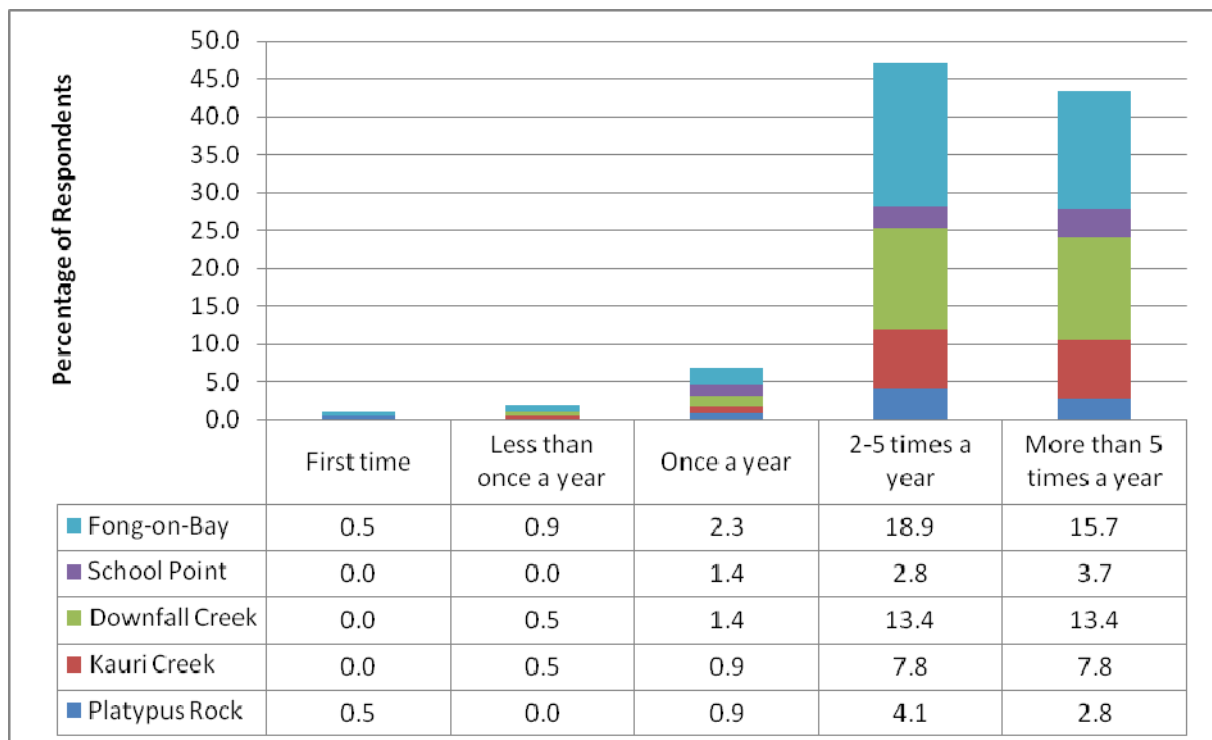


Figure 9: Survey respondents' frequency of visitation to protected natural areas by survey collection site (n = 217).

Reasons for Visiting Lake Tinaroo

Respondents were asked to respond to a series of questions about their motivations for visiting Lake Tinaroo. A six-point Likert scale of 1 (being 'not important') to 6 ('very important') was used. A mean of 4 or greater indicated that the motivation may be classed as important to very important. Responses are presented in order of importance based on mean (Table 10) and as a percentage for each level of importance (Table 11). Table 10 indicates the most important reason for visiting Lake Tinaroo was to rest and relax (mean = 5.27) followed by socialising with family and friends (5.04) and experiencing tranquillity (4.69). Little importance was placed on learning about Aboriginal culture (mean = 1.83) and learning about native animals and plants (2.59).

An open-ended question was also used to give respondents an opportunity to list other motives for visiting the site. Forty-three respondents (18.8% of the sample) took the opportunity to provide additional motives. The main motives were: skiing, boating and fishing (28 responses), the rainforest (10 responses) and to generally have fun (five responses).

Table 10: Comparative domestic and international visitors' motivations to visit Lake Tinaroo.

Motivations to visit Lake Tinaroo	n	Overall Mean
Rest and relaxation	222	5.27
Socialise with family or friends	219	5.04
Experience tranquillity	217	4.69
Be close to/ experience nature	218	4.17
See natural features and scenery	218	4.15
Outdoor exercise	220	3.96
Opportunities for short walks	217	3.17
Because it is a National Park	216	3.03
Because it is a World Heritage Area	215	2.78
Opportunities for long walks	214	2.71
Learn about native animals and plants	215	2.59
Learn about Aboriginal culture	213	1.83

Table 11 outlines the mean value for motivations by campground location. Rest and relaxation was a primary motivation recorded at all of the campsites with the exception of Platypus Rock, where respondents indicated socialising to be a more important motivation. The motivation to be close to/experience nature rated higher at Kauri Creek (mean = 4.92) than at other sites.

Table 11: Motivations for visiting Lake Tinaroo as a comparative mean by survey collection site.

Motivation for visiting Lake Tinaroo	Survey collection site / Mean rating of motivation to visit				
	Platypus Rock	Kauri Creek	Downfall Creek	School Point	Fong-on-Bay
Rest and relax	4.94	5.05	5.54	5.67	5.15
Socialise with family or friends	5.17	4.66	5.08	5.00	5.16
Experience tranquillity	4.22	4.95	4.66	5.44	4.52
Be close to/ experience nature	3.78	4.92	4.12	4.06	3.95
See natural features and scenery	3.89	4.64	4.03	4.50	3.99
Outdoor exercise	3.50	3.85	4.26	4.35	3.81
Opportunities for short walks	2.78	3.87	3.08	3.72	2.87
Because it is a National Park	2.78	3.16	2.85	3.72	3.01
Because it is a World Heritage Area	2.61	3.14	2.64	3.33	2.64
Opportunities for long walks	2.67	3.38	2.67	3.06	2.36
Learn about native animals and plants	1.89	3.05	2.50	2.72	2.57
Learn about Aboriginal culture	1.67	2.43	1.59	1.83	1.79

Figure 10 illustrates the mean for each motivation by campground site. Visitors to Lake Tinaroo were primarily motivated by the opportunity to socialise with family or friends, rest and relaxation, opportunities to experience tranquillity and to experience the natural features of the area.

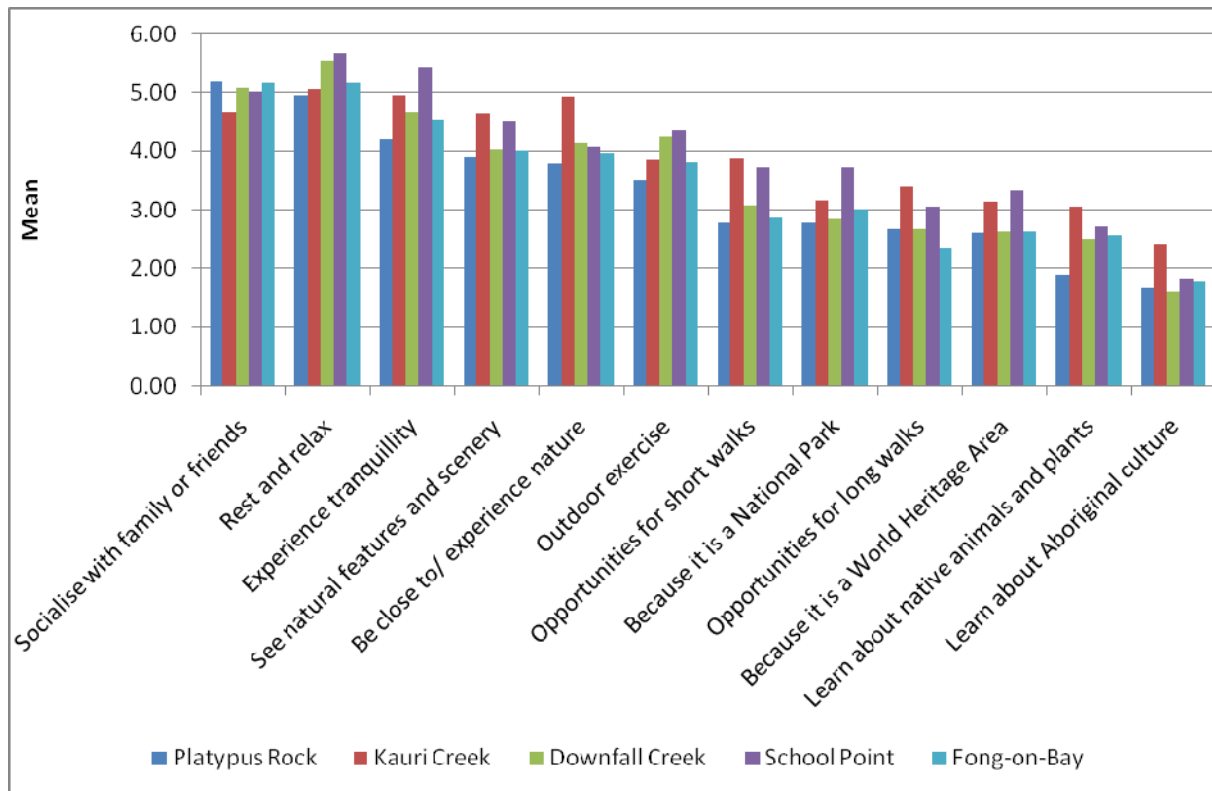


Figure 10: Mean results for motivations for visiting Lake Tinaroo (N = 229).

The results outlined in Table 12 show the level of importance respondents gave to each motive as a percentage. Rest and relaxation was considered very important by 56.3% of the sample as was socialising with family and friends (55.6%). Motivations not considered as important were learning about Aboriginal culture (55.9%), opportunities for long walks (33.2%), because it is a World Heritage Area (31.6%) and learning about native plants and animals (32.1%).

Table 12: Survey respondents' most cited reasons for visiting Lake Tinaroo.

Reasons for visiting Lake Tinaroo	Percentage of survey respondents					
	Not important	Slightly important	Moderately important	Important	Quite important	Very important
Rest and relax	0.5	1.4	3.2	17.5	21.1	56.3
Socialise with family or friends	4.6	3.2	6.4	11.0	19.2	55.6
Experience tranquillity	5.0	4.6	6.5	22.1	24.0	37.8
Be close to/ experience nature	6.9	9.6	12.8	27.1	17.9	25.7
See natural features and scenery	6.9	10.6	13.8	24.3	18.3	26.1
Outdoor exercise	8.8	9.5	22.7	20.0	14.5	24.5
Opportunities for short walks	21.1	17.1	22.6	15.2	11.1	12.9
Because it is a National Park	27.8	13.0	20.4	16.6	11.6	10.6
Because it is a World Heritage Area	31.6	14.4	21.9	16.7	7.0	8.4
Opportunities for long walks	33.2	19.2	19.2	11.2	7.0	10.2
Learn about native animals and plants	32.1	22.3	21.4	8.8	9.3	6.1
Learn about Aboriginal culture	55.9	21.1	14.1	3.8	3.3	1.8

Activities

Respondents were asked to indicate which activities they had undertaken at Lake Tinaroo. Results outlined in Figure 11 indicate that the most popular activity was camping (87.5%) followed by relaxation (73.1%), swimming (61.5%), picnics/barbeques (57.8%) and other activities (49.3%) such as boating, water sports and fishing.

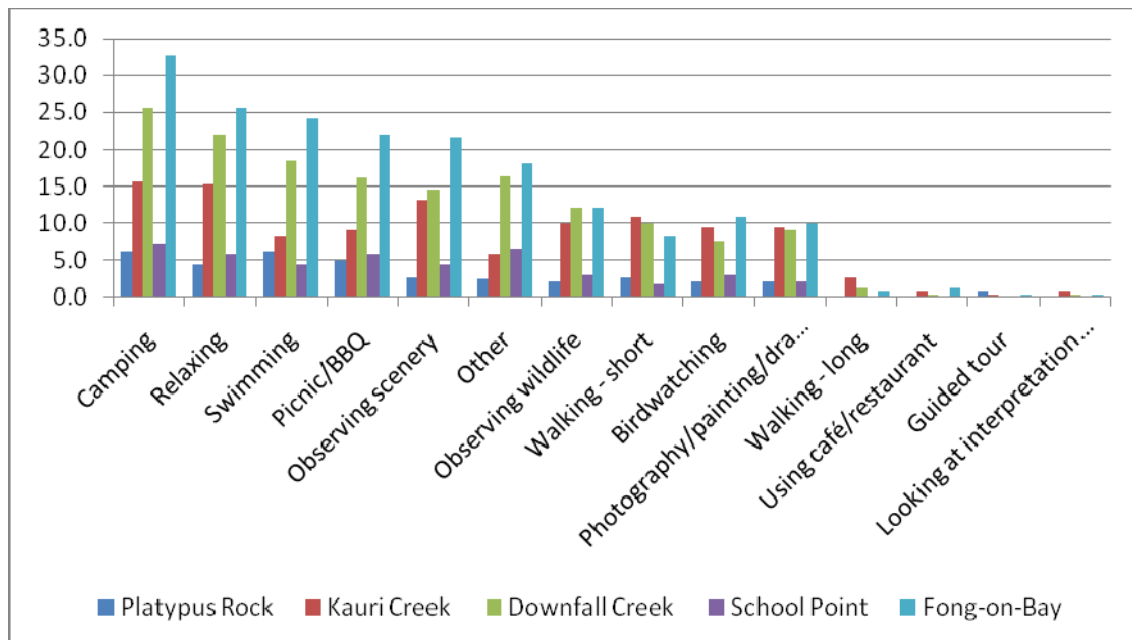


Figure 11: Activities undertaken at Lake Tinaroo as cited by survey respondents (n = 223) in response to a multiple-response survey question.

Using an open-ended question, respondents were asked to indicate if there were activities other than those listed that they would have liked to have participated in. Fifty-three respondents (24.7% of the entire sample) listed 57 desirable activities at Lake Tinaroo (Table 13). The most common responses included a shower/hot shower (n = 22), particularly at Fong-On Bay and Downfall Creek. Running a generator was also raised as a desirable activity. Numerous other activities were indicated by a small number of respondents.

Table 13: Activities which survey respondents would like to have undertaken at Lake Tinaroo (n = 53).

Activity	Survey collection site					Total
	Platypus Rock (n)	Kauri Creek (n)	Downfall Creek (n)	School Point (n)	Fong-On Bay (n)	
Shower/ hot shower	2	-	6	1	13	22
Run generator to power fridge	-	1	2	1	1	5
Access to fresh water	-	-	-	-	2	2
Bring family dog	1	-	1	-	-	2
Catch fish	1	1	-	-	-	2
Go to toilet when need to	-	-	-	-	2	2
Have a campfire but no wood/ not enough fire rings	-	2	-	-	-	2
More bins	-	-	1	-	1	2
Stay – sites full	-	1	-	1	-	2
Bring medical assistance dog	-	-	1	-	-	1
Bushwalking – track closed	-	-	1	-	-	1
Camp at Fong-On Bay	-	-	1	-	-	1
Drink	-	-	-	-	1	1
Drive jet ski by myself	-	-	1	-	-	1
Enjoy a mud/muck free shore	-	-	-	-	1	1
Enjoy peace and quiet but too noisy due to music, loud fast cars, jet skis, drunken louts	-	-	-	-	1	1
Go shopping	-	-	-	-	1	1
Have music on quietly at night – told to turn it off at 10.30pm	-	-	1	-	-	1
Lose other peoples' noisy kids	-	1	-	-	-	1
Recharge my batteries	-	-	1	-	-	1
Relax with family and have picnic lunch	-	1	-	-	-	1
Restrained pet access	-	-	1	-	-	1
See water from campsite	-	-	-	-	1	1
Stay dry	-	-	1	-	-	1
Stay longer	-	-	1	-	-	1
Total responses	4	7	19	3	24	57*

* Note: Multiple responses were given by some individual respondents.

Respondents were asked to state the length of time they spent at Lake Tinaroo, and results are outlined in Figure 12. The maximum time allowable at campgrounds around Lake Tinaroo is 21 days. Fifteen percent of respondents reported a day visit only. About one third of respondents spent one night (35.3%), while 11.2% stayed for two nights, 17.0% stayed for three nights, 7.6% stayed four days (7.6%) and 13.7% stayed over four nights. In total, 84.8% of the respondents stayed at least one night at Lake Tinaroo.

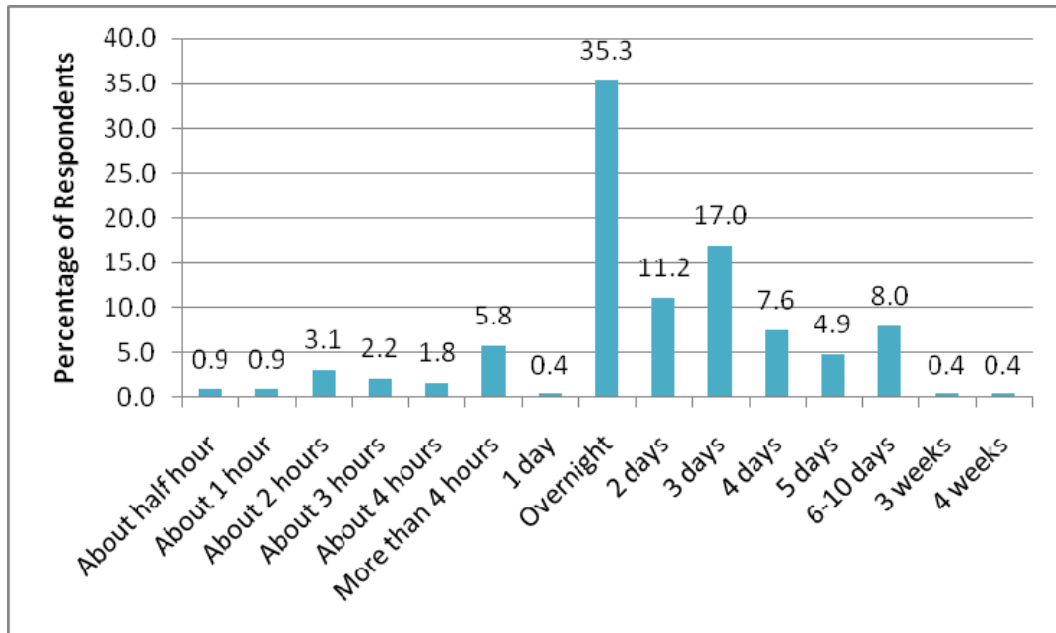


Figure 12: Approximate time spent at Lake Tinaroo by survey respondents (n = 224).

Figure 13 highlights the length of stay at each campground. Most of the respondents (84.8%) stayed longer than one day. Sixteen percent of respondents stayed overnight at Fong-On Bay while 8.0% of respondents stayed overnight at Downfall Creek.

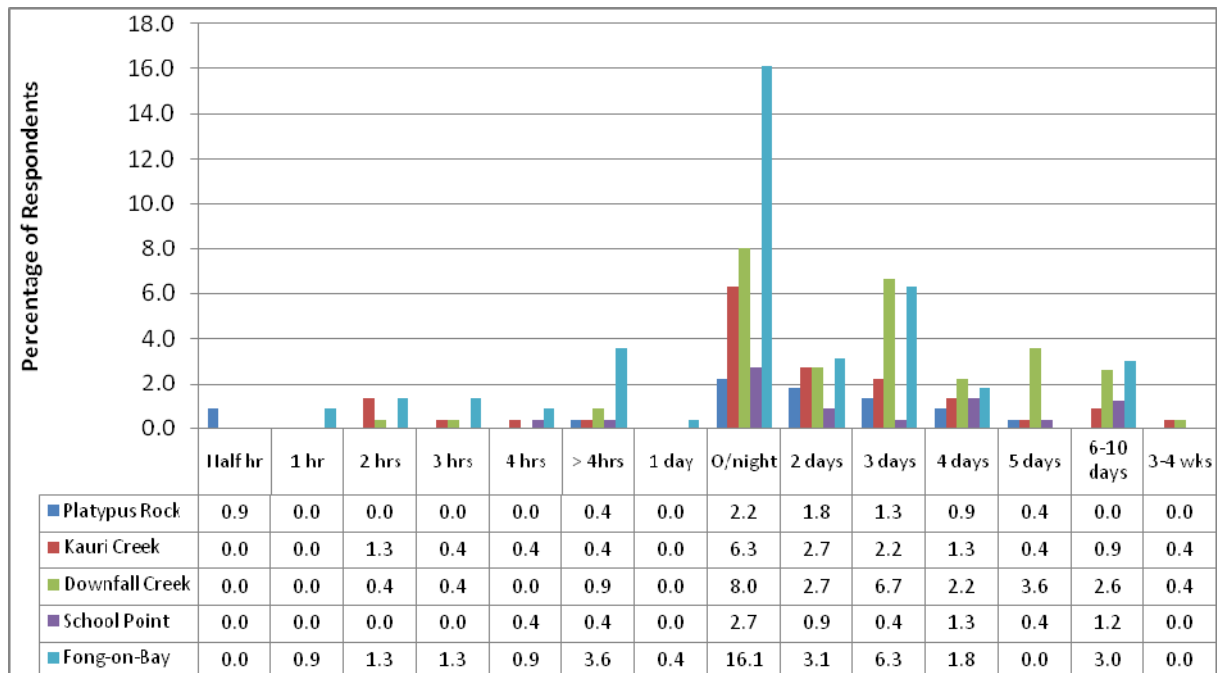


Figure 13: Approximate time spent at Lake Tinaroo by survey respondents according to survey collection site (n = 224).

Willingness to Pay

Currently, visitors to protected natural areas in Queensland are not charged an access/entry fee, although a fee is charged for overnight camping at Lake Tinaroo. Respondents were asked to indicate how much they would be prepared to pay if an entrance fee was introduced at Lake Tinaroo for day visitors.

As Figure 14 illustrates, 61.9% of respondents felt they should not have to pay to access the site for day visits. Of those willing to pay an access fee (38.1%), most (33.4%) indicated a fee of up to \$10 would be acceptable.

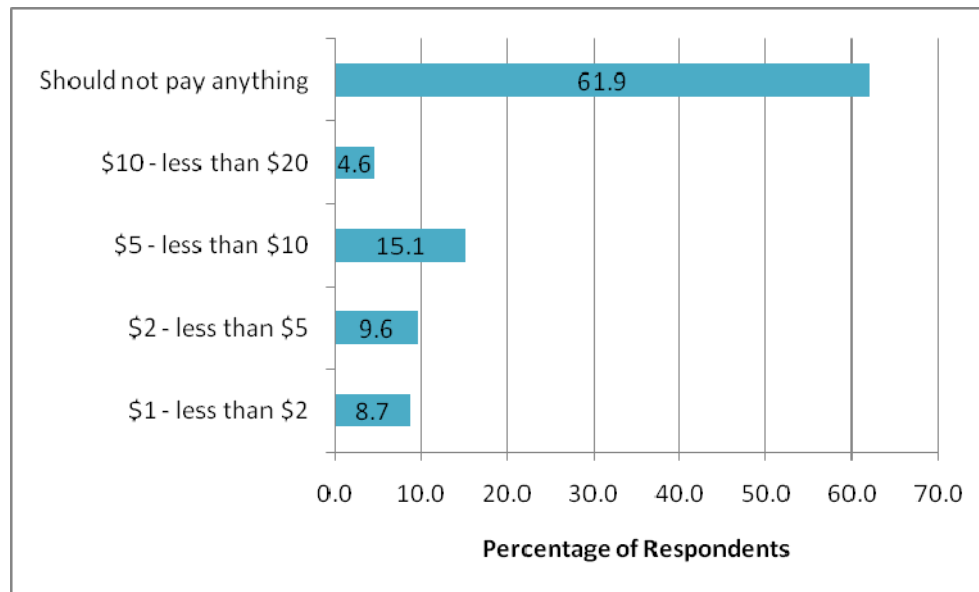


Figure 14: Survey respondents' willingness to pay a day visit access/entrance fee to visit Lake Tinaroo (n = 218).

3.2 Perceptions of the Natural Environment

A series of statements were used to gather respondents' views on the natural environment at Lake Tinaroo. Respondents were asked to indicate their views using a Likert scale where 1 = 'strongly disagree' and 6 = 'strongly agree'. Table 14 details the mean values of respondents' perceptions of the natural environment surrounding Lake Tinaroo. The highest mean recorded was for the area's natural attraction and appealing scenic beauty (mean = 5.26) followed by the good condition of the site (5.12). The natural environment at the site was considered reasonably well-managed (mean = 4.95) and interesting (4.90). Respondents did not feel that the site was disturbed and impacted (mean = 2.26).

Table 14: Visitors' perceptions of the natural environment at Lake Tinaroo.

Perceptions of the natural environment at Lake Tinaroo	n	Overall Mean
In terms of natural attraction and scenic beauty this site is appealing.	221	5.26
The condition of the natural environment at this site appears to be good.	224	5.12
The natural environment at this site is well managed.	224	4.95
The natural environment at this site is interesting.	225	4.90
I would like to spend more time exploring this natural environment.	221	4.38
I am concerned about the impacts of human activity on the natural environment at this site.	225	3.14
This site appears to be disturbed and impacted.	221	2.26

Table 15 provides mean ratings of perceptions of the natural environment based on individual campgrounds using a Likert scale of 1 = 'strongly disagree' to 6 = 'strongly agree'. All campgrounds received a high rating for scenic beauty and natural attraction, the general condition of the site and the level of management of the natural environment.

Table 15: Survey respondents' perceptions of the natural features at Lake Tinaroo campsites.

Perceptions of the natural environment of Lake Tinaroo	Campsite / Mean rating				
	Platypus Rock	Kauri Creek	Downfall Creek	School Point	Fong-On Bay
In terms of natural attractions and scenic beauty this site is appealing.	5.00	5.33	5.26	5.76	5.17
The condition of the natural environment at this site appears to be good.	5.11	5.26	5.32	5.11	4.92
The natural environment at this site is well managed.	4.61	5.08	5.00	5.11	4.89
The natural environment at this site is interesting.	4.61	5.23	4.94	4.89	4.80
I would like to spend more time exploring this natural environment.	4.17	4.73	4.08	4.17	4.52
I am concerned about the impacts of human activity on the natural environment at this site.	3.33	3.31	2.92	3.33	3.15
This site appears to be disturbed and impacted.	2.39	2.50	1.94	2.11	2.39

Table 16 outlines levels of agreement/disagreement with given statements about aspects of the site, expressed as a percentage. Most survey respondents considered that the natural environment at Lake Tinaroo is appealing (96.3%), in good condition (93.3%), interesting (92.1%) and well managed (87.5%). Generally, respondents did not see the area as having been disturbed and impacted (80.0%) and 59.5% of respondents were not concerned about the impacts of human activity at the site.

Table 16: Survey respondents' perceptions of the natural environment at Lake Tinaroo.

Perceptions of the natural environment at Lake Tinaroo	Percentage of survey respondents					
	Strongly disagree	Somewhat disagree	Mildly disagree	Mildly agree	Somewhat agree	Strongly agree
In terms of natural attractions and scenic beauty this site is appealing.	0.9	0.5	2.3	14.5	32.1	49.7
The condition of the natural environment at this site appears to be good.	0.5	2.2	4.0	12.9	38.8	41.6
The natural environment at this site is well managed.	0.5	3.1	8.9	13.8	36.2	37.5
The natural environment at this site is interesting.	1.3	1.3	5.3	24.0	33.8	34.3
I would like to spend more time exploring this natural environment.	3.2	5.0	11.8	32.6	26.2	21.2
I am concerned about the impacts of human activity on the natural environment at this site.	17.7	20.0	21.8	20.0	11.6	8.9
This site appears to be disturbed and impacted.	40.2	24.0	15.8	11.8	5.9	2.3

3.3 Perceptions and Use of the Site Facilities

Respondents were asked to comment on the facilities that were available at Lake Tinaroo. A Likert scale of 1 = 'strongly disagree' to 6 = 'strongly agree' was used to gather respondents' levels of agreement/disagreement with a set of given statements. Table 17 ranks respondents' perceptions using mean values, while Table 18 outlines each mean by campsite. Table 19 outlines specific values measured as a percentage for each level of agreement or disagreement.

Table 17 shows that respondents agreed that the facilities provided at the Lake Tinaroo sites were appealing in terms of the character and attractiveness of the facilities (mean = 4.88), the overall condition of the facilities was good (4.85) and the facilities and infrastructure was well managed.

Table 17: Visitors' perceptions of the site facilities available at Lake Tinaroo as an overall mean rating.

Perceptions of site facilities at Lake Tinaroo	n	Overall Mean
This site is appealing in terms of the character and attractiveness of the facilities.	224	4.88
The overall condition of the facilities at this site appears to be good.	223	4.85
The facilities and infrastructure at this site are well managed.	223	4.78
The presence of a ranger at sites like this is important to me.	224	4.64
The facilities at this site are adequate.	225	4.43

The comparative mean for perceptions of site facilities for each campground is provided in Table 18. School Point is perceived better on all aspects of the site facilities.

Table 18: Visitors' perceptions of the site facilities available at Lake Tinaroo as a comparative mean rating.

Perceptions of the site facilities at Lake Tinaroo	Campsite / Mean rating				
	Platypus Rock	Kauri Creek	Downfall Creek	School Point	Fong-On Bay
This site is appealing in terms of the character and attractiveness of the facilities.	4.79	5.08	5.02	5.33	4.62
The overall condition of the facilities at this site appears to be good.	4.56	4.87	4.94	5.00	4.81
The facilities and infrastructure at this site are well managed.	4.47	4.87	4.79	4.94	4.76
The presence of a ranger at sites like this is important to me.	3.94	4.64	4.65	5.28	4.65
The facilities at this site are adequate.	4.37	4.72	4.48	4.94	4.16

Table 19 provides percentages for respondents' levels of agreement with each given statement about campsite facilities. Overall, a strong level of agreement was recorded against each statement. Eighty-one percent of respondents agreed that it was important to have a ranger based at the site.

Table 19: Survey respondents' perceptions of the site facilities available at Lake Tinaroo as a percentage of overall agreement/disagreement.

Perceptions of the site facilities at Lake Tinaroo	Percentage of survey respondents					
	Strongly disagree	Somewhat disagree	Mildly disagree	Mildly agree	Somewhat agree	Strongly agree
This site is appealing in terms of the character and attractiveness of the facilities.	2.3	3.6	3.1	25.4	26.3	39.3
The overall condition of the facilities at this site appears to be good.	0.9	4.5	4.9	21.1	35.4	33.2
The facilities and infrastructure at this site are well managed.	2.3	4.5	4.9	23.8	30.9	33.6
The presence of a ranger at sites like this is important to me.	5.4	4.0	9.3	21.9	21.0	38.4
The facilities at this site are adequate.	4.4	7.6	8.4	24.0	31.6	24.0

Presence of a Ranger On-site

A significant number of respondents thought that a ranger presence was important for site maintenance (71.2%) and safety and security (59.3%), while 40.8% considered it an important initiative so that complaints about other visitors could be reported. Other reasons provided by respondents included managing public behaviour, cleaning the toilets and for safety reasons.

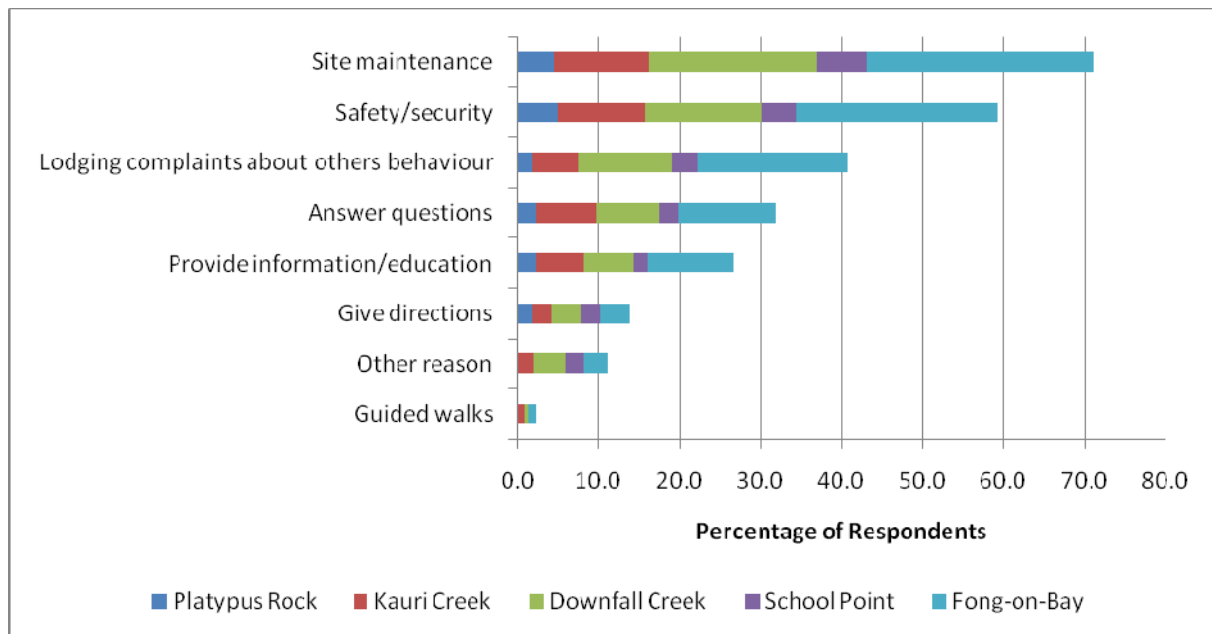


Figure 15: Survey respondents' suggested uses of an on-site Park Ranger at Lake Tinaroo in response to a multiple-response survey question (n = 229).

Use of Site Facilities

A multiple-response format was used to ensure respondents had the opportunity to indicate the facilities they had used at Lake Tinaroo. Figure 16 illustrates the results by campsite as well as the use of facilities at all sites for comparison. Toilets/showers at Downfall Creek (98.4%) and Kauri Creek (97.4%), and rubbish bins (79.4%) at Downfall Creek scored the highest level of facility use. The walking track at Kauri Creek was used by 61.5% of the respondents surveyed at that campground. A fireplace was used by more respondents at School Point (77.8%) than at other sites. Only 36.5% of Downfall Creek respondents and 22.4% of Fong-On Bay respondents reported using a water tap whereas 83.3% of respondents at School Point and 66.7% of respondents at both Platypus Creek and Kauri Creek used a tap. Other facilities used included campsites (five responses), boat ramps (two responses) and one response each for bench seat, lake, fishing and redclaw.

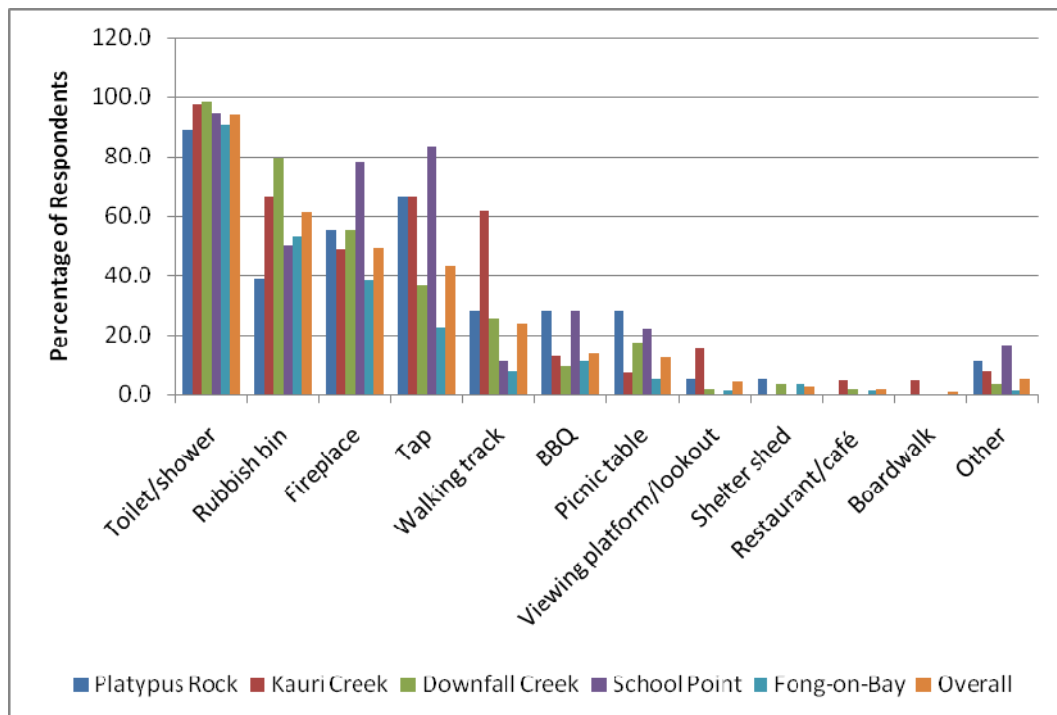


Figure 16: Most popular Lake Tinaroo site facilities used by survey respondents, cited in response to a multiple-response survey question (n = 227).

Expected Site Facilities

Respondents were asked to indicate if there were facilities that they would have liked to have seen at the Lake Tinaroo campsites. Eighty-three respondents (36.2% of the entire sample) responded to this question, providing 102 responses. Results are listed in Table 20 by survey collection site. The most common response was shower facilities (44 responses) followed by firewood (ten responses) and a water tap (six responses). Respondents at all sites had expected to have access to a shower. The highest number of responses calling for a shower was received from Downfall Creek and Fong-On Bay.

Table 20: Facilities expected to be available at Lake Tinaroo by survey respondents (n = 83).

Expectation	Platypus Rock (n)	Kauri Creek (n)	Downfall Creek (n)	School Point (n)	Fong-On Bay (n)	Total (n)
Toilets and Showers						
Showers/ hot shower	5	4	17	3	15	44
Lighting in toilets	-	1	1	2	-	4
Solar toilet light	-	1	2	-	-	3
More toilets	-	-	-	-	2	2
Toilets open	-	-	-	-	1	1
Septic toilets		-	-	-	1	1
Rubbish Disposal						
Rubbish bin	5	-	1	-	1	7
More bins	-	-	3	-	1	4
Barbeques and Fire Rings						
Firewood	1	2	3	-	4	10
Barbeques: More/better	1	-	-	-	2	3
More fire rings	-	1	2	-		3
Picnic table	-	1	-	-	1	2
Water						
Tap	-	-	3	-	3	6
Tap closer to campsite	-	1	-	-	-	1
Campsite						
Level campsite	-	-	1	-	1	2
Use of modern generators between dawn and dusk	-	-	1	-	1	2

Expectation	Platypus Rock (n)	Kauri Creek (n)	Downfall Creek (n)	School Point (n)	Fong-On Bay (n)	Total (n)
Bush/ bike track	-	-	-	1	-	1
On-site registration as mobile coverage not reliable	-	1	-	-	-	1
Other						
Bridge open	-	-	-	-	1	1
Kiosk	-	-	-	-	1	1
Bottleshop	-	-	-	-	1	1
Boat ramp	-	-	-	-	1	1
Fenced play area for kids	-	-	-	-	1	1
Total Responses	12	12	34	6	38	102*

* Note, multiple suggestions were received from some respondents.

Information about Lake Tinaroo

Survey respondents were asked to indicate the sources they had used to gain information about Lake Tinaroo prior to their visit. Results (Figure 17) indicate that previous visits (71.9%) and word-of-mouth (37.1%) were the most common information sources. The internet was used by 9.4% of respondents and 'other' sources (2.4%) included National Parks brochures, Ravenshoe Information Centre, the Camps Australia Wide book and fishing magazines.

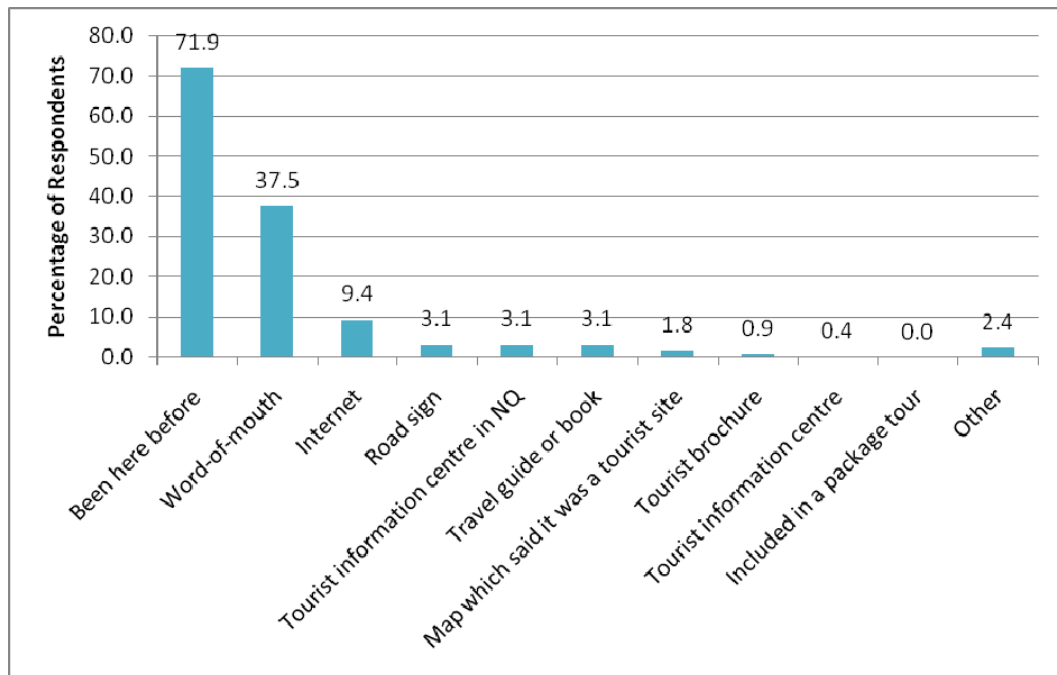


Figure 17: Sources of information consulted by survey respondents prior to visiting Lake Tinaroo (n = 224).

On-site Signage

Interpretative and directional signs are important features of the infrastructure at any visitor site. Twenty percent (n = 42) of survey respondents at Lake Tinaroo reported using on-site interpretative signage. However, the majority of the sample reported their perceptions of the signage provided. With 71.9% of respondents being repeat visitors and signage regarding safety and regulations being provided at campsites, the results presented in Table 21 are valid responses. Respondents were asked to rate given statements about aspects of the on-site signs and interpretative signage using a Likert scale of 1 = 'strongly disagree' to 6 = 'strongly agree'.

Table 21 provides the respondents' levels of agreement with information provided at the site using mean value to rank the order of importance. Based on the responses, there were not strong levels of agreement with aspects of the signage at Lake Tinaroo. Overall, the signs, maps and directions were considered relatively easy to find (mean = 4.83) and helpful (4.54). The rules and safety information was considered easy to understand (mean = 4.81), but did not address the visitors' interests and concerns (mean = 4.51). Information about natural features and values was considered satisfactory (mean = 4.26) and helped respondents to appreciate the natural features of the area (mean = 4.19). Respondents did not consider Aboriginal cultural information was interesting (mean = 2.95) or assisting in appreciation of the cultural significance of the site (mean = 2.96).

Table 21: Domestic and international survey respondents' perceptions of on-site signage at Lake Tinaroo.

Perceptions of on-site signage at Lake Tinaroo	n	Overall Mean
Signs, maps and directions		
Were easy to find	215	4.83
Helped me to find my way around	206	4.54
Signs, maps and directions		
Were easy to understand	210	4.81
Addressed my interests and concerns	204	4.51
Signs, maps and directions		
Was interesting and informative	194	4.26
Helped me to better appreciate the special natural features of the area.	195	4.19
Signs, maps and directions		
Was interesting and informative	165	2.95
Helped me to understand the significance of this area for rainforest Aboriginal people	170	2.96

Table 22 provides the comparative mean ratings of on-site information at the five Lake Tinaroo sites. Information provided at School Point was perceived to be more favourable of signage than other site, particularly in regards to the signs, maps and directions being easy to find (mean = 5.29) and helpful (5.19). Similarly, respondents at School Point perceived the rules and safety information to be easy to understand (mean = 5.29) and addressed concerns (5.14). Signage at Kauri Creek was considered better by these respondents in terms of interest and information (mean = 4.58) and assisting in appreciation (4.58). The most positive perceptions of Aboriginal cultural information were recorded at Kauri Creek and Platypus Rock.

Table 22: Survey respondents' perceptions of on-site tourism information provided at Lake Tinaroo by survey collection point.

Perceptions of on-site signage at Lake Tinaroo	Platypus Rock	Kauri Creek	Downfall Creek	School Point	Fong-On Bay
Signs, maps and directions					
Were easy to find	4.67	5.00	4.88	5.29	4.67
Helped me to find my way around	4.41	4.54	4.58	5.19	4.41
The rules and safety information					
Were easy to understand	4.22	4.97	5.05	5.29	4.63
Addressed my interests and concerns	4.18	4.74	4.60	5.14	4.33
The information about natural features and values					
Was interesting and informative	4.06	4.58	4.19	4.33	4.21
Helped me to better appreciate the special natural features of the area.	4.00	4.58	4.02	4.08	4.22
The Aboriginal cultural information					
Was interesting and informative	3.13	3.52	2.96	2.33	2.81
Helped me to understand the significance of this area for rainforest Aboriginal people	3.00	3.43	2.96	2.33	2.85

Table 23 provides the actual percentage of responses for each level of agreement/disagreement to given statements about the on-site information. Information about the natural features and scenery was considered interesting and informative by 79.9% of the respondents. Similarly, 74.8% agreed this type of information helped in their appreciation of the natural environment. Very high levels of agreement were recorded for the rules and safety signage being easy to understand by 89.5% of the respondents, and 84.8% indicated this safety signage addressed their concerns. Fewer respondents agreed the Aboriginal cultural information signage was interesting and informative (39.4%) or that it helped them to understand the significance of the area to the rainforest Aboriginal people (40.0%).

Table 23: Survey respondents' perceptions of on-site tourism information provided at Lake Tinaroo by level of agreement with given statements.

Perceptions of on-site signage at Lake Tinaroo	Percentage of respondents					
	Strongly disagree	Somewhat disagree	Mildly disagree	Mildly agree	Somewhat agree	Strongly agree
Signs, maps and directions						
Were easy to find	3.3	1.9	7.4	20.5	29.8	37.2
Helped me to find my way around	4.9	3.4	9.2	27.2	26.2	29.1
The rules and safety information						
Were easy to understand	1.9	3.3	5.2	23.8	32.4	33.3
Addressed my interests and concerns	3.4	2.9	8.8	31.4	30.4	23.0
The information about natural features and values						
Was interesting and informative	3.6	4.6	11.9	38.1	25.8	16.0
Helped me to better appreciate the special natural features of the area.	4.6	3.6	16.9	33.8	25.1	15.9
The Aboriginal cultural information						
Was interesting and informative	26.7	13.3	20.6	24.2	7.9	7.3
Helped me to understand the significance of this area for rainforest Aboriginal people	28.2	11.2	20.6	22.9	10.6	6.5

Using an open-ended question, survey respondents were asked for suggestions on additional interpretative information they would like to see at the site. Twenty-eight responses (12.2% of the sample) were received and results are outlined in Table 24. The most significant suggestion was for more information about the Aboriginal culture at Lake Tinaroo (five responses) and maps with locations of dam camping sites and access roads (three responses). Other information desired by one or two respondents included wildlife and fish identification charts, walking track signage, firewood availability and dam information including hazards and boating rules.

Table 24: Survey respondents' suggested additional visitor information that could be made available at the Lake Tinaroo sites (n = 28).

Additional information that could be made available at Lake Tinaroo	Overall (%)
Aboriginal information	5
Maps with location of dam camping sites, unsealed roads, shortest routes to sites from Cairns and nearby towns. Easily accessible on internet.	3
Wildlife identification charts	2
Walking track signage	2
Kilometres between campsites on signage	2
Firewood available/ for sale/ where to find	2
Discovery dates and by who; simple heritage information and age of environment	1
Forestry information/ wildlife information	1
What percentage full is the dam?	1
Graded road	1
Shower locations	1
What makes it so special? Why is it UNESCO listed?	1
Road rules	1
Detailed boating map highlighting hazards and better marked channels through [partly submerged] trees	1
Boating rules	1
Phone number to contact ranger	1
Fish identification	1
Where to catch fish and redclaw	1
Total Responses	28

3.4 Visitor Experience

Visitors were asked to comment on aspects of their visit that enhanced or increased their enjoyment of the site. An open-ended question was used and 110 responses were received from 91 respondents (39.7% of the sample). Results across the five survey collection points were grouped into four categories: natural, facilities, psycho-social and 'other' (Table 25). Facilities (38 responses) including the flat waterside campsites, cleanliness of sites and well maintained facilities enhanced peoples' enjoyment of the site. Psycho-social aspects (27 responses) that enhanced the respondents' enjoyment included the peace and tranquillity, Lake Tinaroo being a beautiful place and the company of friends and family. Natural aspects (24 responses) also mentioned as contributing to enjoyment included the water, 'great weather', nature and wildlife and scenery. Other aspects (21 responses) were mostly related to the water sports activities undertaken and the ranger presence.

Table 25: Aspects that visitors considered enhanced or increased their enjoyment of Lake Tinaroo (n = 91).

	Platypus Rock (n)	Kauri Creek (n)	Downfall Creek (n)	School Point (n)	Fong-On Bay (n)	Total (n)
Natural						
Water/ calm water	2	3	1	-	1	7
Great weather	-	1	3	-	1	5
Nature and wildlife – plants, ducks, waterfowl, dingoes	-	3	1	-	-	4
View/ love the scenery	-	-	3	-	-	3
Unspoilt nature of the site	-	-	-	-	1	1
Rainforest	-	-	1	-	-	1
Rain to fill dam	-	1	-	-	-	1
Fresh running creek	-	1	-	-	-	1
Big fish	-	-	1	-	-	1
Facilities						
Well maintained facilities	-	2	1	1	3	7
Flat waterside campsites	-	1	2	1	2	6
Cleanliness of sites	-	-	1	-	4	5
Open fires	2	2	-	-	-	4
Showers	1	-	-	-	2	3
Clean toilets	1	-	-	-	1	2
Barbeque/ picnic areas cleaner	1	-	1	-	-	2

	Platypus Rock (n)	Kauri Creek (n)	Downfall Creek (n)	School Point (n)	Fong-On Bay (n)	Total (n)
Road into Fong-On Bay	-	-	-	-	1	1
Facilities are adequate	1	-	-	-	-	1
The walk	-	1	-	-	-	1
Taps	-	-	-	-	1	1
No designated campsites or bollards	-	1	-	-	-	1
Better boat ramp	-	1	-	-	-	1
Amenities	-	-	1	-	-	1
Lawns	-	-	-	-	1	1
Sites gave us privacy	-	-	1	-	-	1
Psycho-social						
Peace and tranquillity	1	-	4	-	1	6
Beautiful place	-	2	1	-	3	6
Socialising/ friend's company/ family interaction	-	1	2	-	1	4
More space this year, less crowded	1	-	1	-	-	2
Other people quiet and respected the environment	-	1	1	-	-	2
Few other people	-	-	-	-	1	1
Campfires with other campers	-	1	-	-	-	1
Met many young people	-	-	-	-	1	1
Knowing there were only 250 people	-	-	-	-	1	1
Very relaxed	-	-	-	-	1	1
Fantastic family campsite	-	-	-	1	-	1
Only eight sites – quieter than other camps	-	-	-	1	-	1
Other						
Water sports/ boating/ skiing	2	1	2	-	1	6
Rangers keep people quiet	-	-	1	-	3	4
Daily servicing of facilities by rangers	-	-	-	-	3	3
Help and assistance of ranger excellent/ contact with ranger	-	-	1	-	1	2

	Platypus Rock (n)	Kauri Creek (n)	Downfall Creek (n)	School Point (n)	Fong-On Bay (n)	Total (n)
Less visits from rangers	-	-	-	-	1	1
Radio reception	-	-	-	1	-	1
Not too many rules	-	1	-	-	-	1
Friendly rangers	-	-	1	-	-	1
Looking for firewood	1	-	-	-	-	1
People all yabbing together	-	1	-	-	-	1
Total Responses	13	25	31	5	36	110*

* Note, multiple suggestions were received from some respondents.

Respondents were also asked for their views on aspects of Lake Tinaroo that detracted from their enjoyment. As outlined in Table 26, 78 respondents provided 95 responses (34.1% of the sample) to this open-ended question. Comments were divided into four categories, generally paralleling the categories used to indicate the aspects of the site that respondents found appealing: 'nature', 'facilities', 'safety', 'psycho-social' and 'other'. Of note were noisy people (11 responses), boating noise (7 responses) and the inability to use generators (7 responses).

Table 26: Aspects visitors considered took away or detracted from their enjoyment of Lake Tinaroo (n = 78).

	Platypus Rock (n)	Kauri Creek (n)	Downfall Creek (n)	School Point (n)	Fong-On Bay (n)	Total (n)
Natural						
March flies	-	2	-	1	-	3
Rain	-	-	3	-	-	3
Leeches	-	2	-	-	-	2
Excessive fishing/ yabbing	-	1	-	-	-	1
Wild pigs	-	1	-	-	-	1
Facilities						
Lack of showers	-	-	1	-	4	5
Lack of toilet paper	-	1	1	-	2	4
Grass needs mowing	-	1	1	-	1	3
Stench of bins	-	-	1	-	2	3
Lack of bins	-	-	3	-	-	3

	Platypus Rock (n)	Kauri Creek (n)	Downfall Creek (n)	School Point (n)	Fong-On Bay (n)	Total (n)
Got stuck in toilet – lock broken	-	2	-	-	-	2
[Poor state of the] road in	-	-	2	-	-	2
Empty the rubbish skips more regularly during the busy period	-	-	1	-	-	1
Toilets	1	-	-	-	-	1
Picnic tables	1	-	-	-	-	1
More toilets needed	-	-	-	-	1	1
Smell of toilets	-	-	1	-	-	1
No firewood	-	-	-	-	1	1
Psycho-social						
Noisy people at night	-	1	2	-	8	11
Speed boat noise/ ski boats	1	2	1	2	1	7
Noisy inconsiderate campers	-	-	-	-	3	3
Noisy people at dawn	-	1	-	1	-	2
Noisy abusive native people	-	-	1	-	-	1
Noise restrictions	-	-	-	-	1	1
Noisy vehicles	-	-	-	-	1	1
Speed boats start too early – after 8am would be ideal	-	-	1	-	-	1
Loud music	-	-	-	-	1	1
Too many people	-	1	-	-	-	1
Others camping on top of us in undesignated areas	-	1	-	-	-	1
Stranger slept in my tent and stole pillow	-	-	-	-	1	1
Safety						
Cars speeding along road near young children	-	-	-	-	2	2
Poor boating behaviour	-	1	-	-	-	1
Unsupervised children	-	1	-	-	-	1
Young people behaving irresponsibly – drinking, driving, littering	-	-	-	-	1	1

	Platypus Rock (n)	Kauri Creek (n)	Downfall Creek (n)	School Point (n)	Fong-On Bay (n)	Total (n)
Other						
No generators	-	-	5	1	1	7
Price and availability of firewood	-	-	2	-	-	2
Rangers harassment	2	-	-	-	-	2
Illegal use of generators	-	1	-	-	-	1
Generator times not adhered to	-	-	1	-	-	1
Travel to food site	-	-	-	-	1	1
Skiing and jet skiing	-	-	-	1	-	1
Too over-regulated	-	-	-	-	1	1
Felling of trees	-	-	-	-	1	1
Difficult booking online when group members staying different nights and number of days. Easier to pay on arrival	-	-	1	-	-	1
Not fishing at night	1	-	-	-	-	1
Dogs in park not policed	-	-	1	-	-	1
Lack of knowledge regarding dumping of toilet waste	-	-	1	-	-	1
Total Responses	6	19	30	6	34	95*

* Note, multiple suggestions were received from some respondents.

The overall conclusions that can be drawn from the results reported in Tables 25 and 26 are that respondents found Lake Tinaroo to be enjoyable, with the lake providing recreational and psycho-social benefits. However, at times visitor enjoyment is constrained by excessive noise created by other visitors, a minor lack of facilities and existing rules and regulations.

Other Visitors

The behaviour of other visitors at a site can affect the level of enjoyment an individual derives from visiting that site. In circumstances where overcrowding occurs the overall level of enjoyment could be expected to fall. However, the link between perceived crowding and satisfaction is weak and is dependent on personal norms, situational variables and site infrastructure (West, 1981; Stankey and McCool, 1984; Kalisch and Klaphake, 2007). A series of statements were presented in the survey and respondents were asked to comment using a Likert scale of 1 = 'strongly disagree' to 6 = 'strongly agree'. Table 27 indicates that overall there was disagreement with the statements pertaining to crowding at the site (mean = 2.33) and other people restricting a person's activities (2.06). There is some agreement with the behaviour of other visitors detracting from a person's enjoyment (mean = 2.69) and the environmental behaviour of others is of some concern (3.93).

Table 27: Visitors' perceptions of other site visitors at Lake Tinaroo.

Perceptions of other site visitors	n	Overall Mean
The behaviour of other visitors at this site has been on the whole environmentally responsible.	214	3.93
There were too many people at this site today.	216	2.33
The presence of other people at this site prevented me from doing what I wanted to.	215	2.06
The behaviour of some visitors at this site detracted from my enjoyment of this site.	215	2.69

Table 28 shows that there was concern about the environmental behaviour of others at Lake Tinaroo, with quite high mean ratings received from Platypus Rock (mean = 4.29), Kauri Creek (4.46) and Downfall Creek (4.18). Strong levels of disagreement with the presence of other people interfering with planned activities were recorded at Platypus Rock (mean = 1.67), Downfall Creek (1.74) and School Point (1.89).

Table 28: Visitors' perceptions of other visitors at Lake Tinaroo as a mean rating.

Perceptions of other site visitors	Mean rating of agreement/disagreement				
	Platypus Rock	Kauri Creek	Downfall Creek	School Point	Fong-On Bay
The behaviour of other visitors at this site has been on the whole environmentally responsible.	4.29	4.46	4.18	3.61	3.52
There were too many people at this site today.	1.89	2.97	2.43	2.11	2.12
The presence of other people at this site prevented me from doing what I wanted to.	1.67	2.65	1.74	1.89	2.18
The behaviour of some visitors at this site detracted from my enjoyment of this site.	1.94	2.83	2.74	1.88	2.90

Table 29 provides the actual levels of agreement/disagreement with given statements about the perceptions of other visitors at Lake Tinaroo. With regards to the behaviour of other visitors, 65.5% of survey respondents agreed the behaviour of others had been overall environmentally responsible, whilst only 30.7% of respondents agreed the behaviour of others detracted from their enjoyment. Concerning crowding, 81.4% of respondents disagreed with the statement that there were too many people at the site and 69.3% disagreed with the statement that the behaviour of others detracted from their enjoyment.

Table 29: Visitors' perceptions of other visitors at Lake Tinaroo as a percentage of the total sample.

Visitors' perceptions of other visitors at Lake Tinaroo	Percentage of respondents					
	Strongly disagree	Somewhat disagree	Mildly disagree	Mildly agree	Somewhat agree	Strongly agree
The behaviour of other visitors at this site has been on the whole environmentally responsible.	16.4	11.2	7.0	17.3	24.8	23.4
There were too many people at this site today.	37.0	25.0	19.4	10.2	3.2	5.1
The presence of other people at this site prevented me from doing what I wanted to.	49.8	18.1	18.6	6.5	3.7	3.3
The behaviour of some visitors at this site detracted from my enjoyment of this site.	35.8	21.9	11.6	11.6	6.5	12.6

3.5 Additional Comments

The survey instrument provided respondents with the opportunity to record comments on any aspect of their visit. Seventy-eight respondents provided a comment (34.0% of the sample). The majority of feedback centered on the use of generators, the provision of facilities, noise pollution, and the positive social benefits of staying at Lake Tinaroo. Respondents from Far North Queensland included those who reside north of Innisfail. North Queensland visitors were those who reside within the Townsville region and surrounds.

Date	Survey Site	Comment
28 December 2008	Fong-on-Bay	<p>'We have been regular visitors to this site for the past twenty years. Thank you for asking for our participation. Capping [of visitor numbers] is brilliant. We have been on many occasions when young ones have been loud and drunk with loud music until all hours – then in the morning leave a mess and tear up the grass. Limiting the number [of visitors allowed] and [having] a ranger present would stop this behaviour. Thank you.'</p> <p><i>Far North Queensland visitor, female, 43 years</i></p>
28 December 2008	Fong-on-Bay	<p>'The use of generators between dawn and dusk while the boats are running should be allowed.'</p> <p><i>Far North Queensland visitor, female, 17 years</i></p>
28 December 2008	Fong-on-Bay	<p>'We have been coming for 22 years – ambience gone. Family fun gone! Over regulation too much! Lots of families miss out here at 250 ridiculous – Fong-On can house 1000+++. Unbelievable. Too many people miss out!'</p> <p><i>Australian visitor, female, 38 years</i></p>
28 December 2008	Fong-on-Bay	<p>'Come here throughout the year and usually stay two weeks over Christmas and New Year. Have done for the last four years. Enjoy Fong-On Bay as it is relaxing and furthestest away from civilisation. Can camp with a big group of family and friends.'</p> <p><i>Far North Queensland visitor, female, 34 years</i></p>
28 December 2008	Fong-on-Bay	<p>'Generators should be able to be used during skiing hours 6am-6pm. They make no noise compared to ski boats.'</p> <p><i>Far North Queensland visitor, male, 58 years</i></p>
28 December 2008	Fong-on-Bay	<p>'For people to stay long term it would be beneficial for the use of generators. I know generators cause noise, but if generators were restricted to a time (such as when the boat engines are going) then it won't matter for noise. During our stay we found that the toilets weren't maintained to a very hygienic level. The paper wasn't filled on a regular basis and this could lead to diseases. So regular filling and small maintenance would be very beneficial.'</p> <p><i>Far North Queensland visitor, female, 32 years</i></p>
28 December 2008	Fong-on-Bay	<p>'Great site. Great lake.'</p> <p><i>Far North Queensland visitor, male, 46 years</i></p>

Date	Survey Site	Comment
28 December 2008	School Point	<p>'There should be showers and solar lights at the toilet. Generators should be allowed. New fireplaces with covers (roof).'</p> <p><i>Far North Queensland visitor, male, 46 years</i></p>
28 December 2008	School Point	<p>'We should be allowed to run eco-friendly generators between 10am-10pm.'</p> <p><i>Far North Queensland visitor, female, 38 years</i></p>
28 December 2008	School Point	<p>'An area for jet skis should be specified – and skiing – and not open slather – everywhere. Phone booking line took one and a half hours to add one night to trip for two people – software doesn't support adding people for part of trip – sort it out.'</p> <p><i>Far North Queensland visitor, male, 59 years</i></p>
28 December 2008	School Point	<p>'Booking on the phone need to be improved, call centre systems need to become more user friendly for the staff. They seem to be rigid and take too long to change booking dates (increasing stay) and adding numbers to first booking – ended up paying more because it simplified the matter. Staff were friendly.'</p> <p><i>Far North Queensland visitor, male, 38 years</i></p>
28 December 2008	Kauri Creek	<p>'Keep up the good work. Thanks.'</p> <p><i>Far North Queensland visitor, male, 50 years</i></p>
28 December 2008	Downfall Creek	<p>'Fire wood for \$9.00 a bag is unacceptable.'</p> <p><i>Far North Queensland visitor, male, 61 years</i></p>
28 December 2008	Downfall Creek	<p>'1. More bins needed. 2. Increase the number of camp sites. 3. Not enough road signs. 4. Increase time when music is turned off – 10.30pm is too early.'</p> <p><i>North Queensland visitor, male, 23 years</i></p>
28 December 2008	Downfall Creek	<p>'Perhaps if the camping fees the public paid to utilise this area were used to directly benefit this area (Tinaroo) then National Parks could maintain them even better, i.e. fixing walking tracks and grading the roads. Good job in general by National Parks! Thank you.'</p> <p><i>Far North Queensland visitor, male, 28 years</i></p>
28 December 2008	Downfall Creek	<p>'I feel the rangers need to enforce the rules that are put in place, so many times people have had dogs and generators and not been fined.'</p> <p><i>Far North Queensland visitor, female, 27 years</i></p>
28 December 2008	Downfall Creek	<p>'Would like more trees. Restrict visit to a week maybe two maximum. Where have the waterfowl gone? Pukeku. Noisy music.'</p> <p><i>Far North Queensland visitor, female, 60 years</i></p>

Date	Survey Site	Comment
28 December 2008	Downfall Creek	<p>'Tinaroo is a gorgeous place to visit. I appreciate the limited number of people who can stay at any one time. I've enjoyed (last year) the policing of 'New Year' activity. Rogue activity can only be tolerated for so long.'</p> <p><i>Far North Queensland visitor, female, 39 years</i></p>
28 December 2008	Downfall Creek	<p>'The prohibition of using modern, very economical and <u>EPA approved</u> generators (invertors) is a load of b*llshit. The vast majority of campers would like to see this reversed. When rangers were questioned about the use of generators at other national parks which are permitted, the reply was that ice was available within a half-hour driving time. In this increasingly enviro-conscious times the vehicle fuel use to obtain this ice would be hugely more than the consumption an <u>EPA approved</u> generator set, such as Honda inverter EU10i (10 hrs on 2 litres). The noise of these units is so low they are virtually unnoticeable. A survey of current campers revealed an almost unanimous request that this stupid rule be abolished. Are these rules invented by sensible, practical people? We think not!'</p> <p><i>Far North Queensland visitor, male, 55 years</i></p>
28 December 2008	Downfall Creek	<p>'Lack of facilities (toilets and showers). Garbage collection.'</p> <p><i>Far North Queensland visitor, female, 59 years</i></p>
28 December 2008	Downfall Creek	<p>'The rules about generators need reviewing. With modern machines, the noise levels are minimal.'</p> <p><i>Far North Queensland visitor, male, 51 years</i></p>
28 December 2008	Downfall Creek	<p>'The use of inverter generators should be endorsed during daylight hours, e.g. 9am to 6pm to enable campers to maintain food in their portable fridges. The availability of good lasting ice is hard to find and food stuffs have a shorter use by dates and require a constant temperature for storing. The noise level produced by these modern small generators is negotiable and can be contained within the campers' close proximity (3-5 metres). Approval from nearby campers should be obtained prior to use. Modern camping conditions have changed and it is about time management changed with them. Permit system – state wide – not easy to book site when travelling around.'</p> <p><i>Far North Queensland visitor, male, 62 years</i></p>
28 December 2008	Downfall Creek	<p>'I have a problem not being able to keep my food fresh. A generator which is a low noise one I feel could be used for a few hours a day to recharge our batteries.'</p> <p><i>Far North Queensland visitor, female, 64 years</i></p>
28 December 2008	Downfall Creek	<p>'I feel that the generators that are made today (very quiet), we should be able to use them within certain hours. We find that with the quality of ice made today we have to buy it everyday to keep our food cold and this proves to be rather expensive.'</p> <p><i>Far North Queensland visitor, female, 60 years</i></p>

Date	Survey Site	Comment
28 December 2008	Downfall Creek	<p>'We had a bad experience with one of the rangers who complained about our music – when the children in the water were louder than our music. I found him rude and unreasonable! No other campers complained of our music and when I asked them if it was loud they all said no! I don't know what his problem is!'</p> <p><i>Far North Queensland visitor, female, 40 years</i></p>
28 December 2008	Downfall Creek	<p>'Any problems were dealt with or nipped in the bud by rangers, having a great time on the water.'</p> <p><i>Other Queensland visitor, female, 48 years</i></p>
28 December 2008	Downfall Creek	<p>'Silenced inverter generators under 3kva should be allowed for between 9am and 12pm daily. These are quiet enough to not affect others and are of minimal fire risk.'</p> <p><i>Far North Queensland visitor, male, 31 years</i></p>
28 December 2008	Downfall Creek	<p>'We enjoy camping at all of the Tinaroo sites, the only things I have ever found not so appealing are the lack of contained fire facilities and sometimes the toilets are not that well maintained, which most probably is the fault of visitors not rangers. Thank you!'</p> <p><i>Far North Queensland visitor, female, 24 years</i></p>
28 December 2008	Platypus Rock	<p>'Overall experience for family was excellent.'</p> <p><i>Far North Queensland visitor, female, 31 years</i></p>
7 June 2009	Fong-on-Bay	<p>'This is paradise, but no showers? Why not? We would pay. Inconvenience to be unable to shower. Would pay \$5 plus for shower, please, please, please.'</p> <p><i>North Queensland visitor, female, 47 years</i></p>
7 June 2009	Fong-on-Bay	<p>'Loud music at night is annoying. My only real complaint though was the speeding cars – the same people all the time, although we asked them nicely to slow down.'</p> <p><i>Far North Queensland visitor, female, 37 years</i></p>
7 June 2009	Fong-on-Bay	<p>'Love Tinaroo, except I feel that this area needs some showers. Walked past a family with a dog at Fong-On Bay.'</p> <p><i>Far North Queensland visitor, female, 21 years</i></p>
7 June 2009	Fong-on-Bay	<p>'Very nice place.'</p> <p><i>Far North Queensland visitor, male, 42 years</i></p>
7 June 2009	Fong-on-Bay	<p>'A well managed destination. Rangers and QPWS deserve more funding to improve facilities (showers) and manage inappropriate behaviour.'</p> <p><i>Far North Queensland visitor, male, 40 years</i></p>
7 June 2009	Fong-on-Bay	<p>'The use of a low noise generator would have made the experience more enjoyable and easier when visiting with kids.'</p> <p><i>Far North Queensland visitor, female, 23 years</i></p>

Date	Survey Site	Comment
7 June 2009	Fong-on-Bay	'Use of low decibel generators to be allowed.' <i>Far North Queensland visitor, male, 32 years</i>
7 June 2009	Fong-on-Bay	'[We are] regular campers at Fong-On Bay.' <i>Far North Queensland visitor, female, 31 years</i>
7 June 2009	Fong-on-Bay	'I love this place.' <i>Far North Queensland visitor, female, 32 years</i>
7 June 2009	Fong-on-Bay	'I have been coming at Tinaroo for three years. All camp sites are extremely clean, tidy and well maintained. I would like to see the campsites and dam as it is for years to come. This is great family fun.' <i>Far North Queensland visitor, female, 42 years</i>
7 June 2009	Fong-on-Bay	'Would like to see cold showers available and wood provided at fire places.' <i>North Queensland visitor, male, 55 years</i>
7 June 2009	Kauri Creek	'Supplied firewood would be good. More flat ground areas for setting up camp would be good.' <i>Far North Queensland visitor, female, 42 years</i>
7 June 2009	Kauri Creek	'Public holiday weekend I expected too many people, but it still was good.' <i>Victorian visitor, male, 56 years</i>
7 June 2009	Kauri Creek	'Great site, more taps for water closer to camp sites would be great (centrally placed), fix locks on toilets.' <i>Far North Queensland visitor, female, 30 years</i>
7 June 2009	Kauri Creek	'We love Tinaroo and the ducks and bush turkeys. We like the pine trees, fishing, turtles and the grass. We would like to bring our small dog with us.' <i>Far North Queensland visitor, female, 17 years</i>
7 June 2009	Kauri Creek	'We have thoroughly enjoyed this area. The scenery and wildlife are brilliant. Other visitors have been friendly. Rangers have been friendly. Need to get rid of the wild pigs that rip up the banks and are a danger to us.' <i>New South Wales visitor, female, 35 years</i>
7 June 2009	Kauri Creek	'Great experience, looking forward to our next visit.' <i>Other Queensland visitor, female, 52 years</i>
7 June 2009	Kauri Creek	'Fisheries should have some sort of cap or measure on red claw traps and fishing. We know of one family who had over thirty traps.' <i>New South Wales visitor, female, 32 years</i>

Date	Survey Site	Comment
7 June 2009	Kauri Creek	<p>'This is an amazing spot. However I am worried about the lack of rules on fishing and trapping being enforced. Further to this, there are wild pigs that seem very used to people and enter the camp; I can see that one day this will cause an accident if the feral animals are not managed.'</p> <p><i>New South Wales visitor, male, 28 years</i></p>
8 June 2009	Downfall Creek	<p>'Police were called out and could hear them. Not good for kids.'</p> <p><i>Far North Queensland visitor, female, 30 years</i></p>
8 June 2009	Downfall Creek	<p>'Would like to have hot showers and maybe some water taps at each of the main camp sites.'</p> <p><i>Far North Queensland visitor, male, 43 years</i></p>
8 June 2009	Downfall Creek	<p>'Lovely place to stay to take a break.'</p> <p><i>Far North Queensland visitor, female, 19 years</i></p>
8 June 2009	Downfall Creek	<p>'It's lovely and peaceful up here. It's only a short drive from the city, but it's like we are miles away. A tap for water (even if it's dam water) would be handy at the camp sites. Lights and showers would be greatly appreciated at the shower/toilet block. Also, the flushing toilets are beautiful. Much nicer than environ toilets.'</p> <p><i>Far North Queensland visitor, female, 22 years</i></p>
8 June 2009	Downfall Creek	<p>'We love this lake and would love to see it preserved as it is. North Queensland gem.'</p> <p><i>Far North Queensland visitor, female, 42 years</i></p>
8 June 2009	Downfall Creek	<p>'Excellent spot when not occupied by drunken idiots. Numbers great this trip. Need to crack down on idiots doing spinouts/ burnouts in cars when drunk, especially at Fong-On Bay. Regular police drive arounds, especially at Fong-On. Family safety is a must.'</p> <p><i>Far North Queensland visitor, female, 32 years</i></p>
8 June 2009	Downfall Creek	<p>'After hours drunken idiots, drink drivers and racing cars needs to be totally stamped out. Behaviour of occupants generally much better than previous trips.'</p> <p><i>Far North Queensland visitor, male, 36 years</i></p>
8 June 2009	Platypus Rock	<p>'We camp here often and would love hot water for showers. Toilets are OK.'</p> <p><i>Far North Queensland visitor, female, 41 years</i></p>
8 June 2009	Platypus Rock	<p>'Keep toilets clean. Shouldn't have to pay for camping fees when we supply everything ourselves. Showers would be good.'</p> <p><i>Far North Queensland visitor, female, 47 years</i></p>

Date	Survey Site	Comment
8 June 2009	Platypus Rock	<p>'You should be able to [house any number] of people on your site, pay one amount for a site and have as many family/friends as you like.'</p> <p><i>Far North Queensland visitor, female, 45 years</i></p>
8 June 2009	Platypus Rock	<p>'Well done, but need hot shower thanks, firewood and fireplaces.'</p> <p><i>Far North Queensland visitor, male, 18 years</i></p>
8 June 2009	Platypus Rock	<p>'In essence, we have used this site for camping, fishing and water sports. Other users of this site have done so in a responsible and friendly manner. A major factor in using this site is the provision of fire places to light an open fire and enjoy the 'family' bonding of sitting around the fire with a few drinks, snacks, barbeque and a good chat.'</p> <p><i>Far North Queensland visitor, male, 30 years</i></p>
8 June 2009	Platypus Rock	<p>'Clean up lookout/toilets/picnic areas – make the place inviting. Hot showers. Should not have to pay so much, only pay for site as no showers/firewood/picnic areas with shelter.'</p> <p><i>Far North Queensland visitor, female, 19 years</i></p>
8 June 2009	Platypus Rock	<p>'I understand that educating people about taking your rubbish out is the right thing to do, but I've found (especially day users) aren't as considerate and you find yourself taking others' rubbish out. Firewood provided (charge extra) to stop people going into the national park to find some.'</p> <p><i>North Queensland visitor, male, 24 years</i></p>
21 August 2009	Fong-on-Bay	<p>'Beautiful! Generally well managed.'</p> <p><i>Far North Queensland visitor, female, 29 years</i></p>
21 August 2009	Fong-on-Bay	<p>'Solar showers and pump [would be] great.'</p> <p><i>Other Queensland visitor, male, 69 years</i></p>
21 August 2009	Fong-on-Bay	<p>'Coming back, leave sites alone.'</p> <p><i>New South Wales visitor, female, 55 years</i></p>
21 August 2009	Fong-on-Bay	<p>'Great camping spot, frequent many times a year.'</p> <p><i>Far North Queensland visitor, male, 48 years</i></p>
21 August 2009	School Point	<p>'Improvements to the over-phone camp site booking system are needed. Having to regive all those details over and over again to book is so annoying. Need a way where I have a camper number and the details can be reused each time we book by quoting the number. So campers can give details once and it's held on file.'</p> <p><i>Other Queensland visitor, female, 46 years</i></p>
21 August 2009	School Point	<p>'The over-the-phone booking service is too long a process. Would prefer the on-site pay at the camp site system.'</p> <p><i>Other Queensland visitor, male, 45 years</i></p>

Date	Survey Site	Comment
21 August 2009	Kauri Creek	<p>'There is only one thing that we believe should happen in State/National Parks: you should be able to run your generator (as long as it is one of the new quiet ones that only emit low noise levels), between, say, 5-8pm. You are able to hook your van up to your vehicle (in our case an F250 that is far noisier than our generator) and run it for as long as you like. We know it would be hard to police, but if there was a time limit, it would be beneficial.'</p> <p><i>Australian visitor, female, 51 years</i></p>
21 August 2009	Kauri Creek	<p>'Rules for use of generators did not seem clear and as usual there is are always a couple of people who don't have much consideration for their neighbours. We are self contained, but there may be times when we need to use a generator to top up batteries. Rules like maximum run time of two hours and only between 9am and 4pm are satisfactory.'</p> <p><i>Victorian visitor, female, 61 years</i></p>
21 August 2009	Kauri Creek	<p>'Toilets require attention as I have been coming to this site for five years plus and the condition of these has not changed in years. A few drinking water taps around would be nice.'</p> <p><i>Other Queensland visitor, male, 75 years</i></p>
21 August 2009	Kauri Creek	<p>'Thankyou, hope the children and I can keep coming here and enjoying everything for at least another twenty years.'</p> <p><i>Far North Queensland visitor, male, 44 years</i></p>
21 August 2009	Kauri Creek	<p>'My wife and I think the fee arrangement is all wrong, as overnighers pay nothing. We feel the honesty box is better. A family of two adults and two kids should not have to pay \$20 per night for the use of a toilet.'</p> <p><i>Far North Queensland visitor, female, 72 years</i></p>
21 August 2009	Downfall Creek	<p>'A couple of caravans had their generators going for too long. A great site well looked after. Would definitely come back again.'</p> <p><i>Victorian visitor, male, 55 years</i></p>
21 August 2009	Downfall Creek	<p>'Praise must be given to those people who maintain their sites at Downfall. Rangers need to flush out generator users, generally after dark.'</p> <p><i>Victorian visitor, male, 67 years</i></p>
21 August 2009	Downfall Creek	<p>'Leave sites as is with maintenance of barbeque/campfire sites increased. Please, no 'Brilliant Ideas!'</p> <p><i>Far North Queensland visitor, male, 60 years</i></p>
21 August 2009	Downfall Creek	<p>'We camp here often and the generator noise should be addressed. A total ban would be great – if they can't survive without, they should go to a van park. The noise is really annoying and constant.'</p> <p><i>Far North Queensland visitor, female, 53 years</i></p>

Date	Survey Site	Comment
21 August 2009	Platypus Rock	'Telephone booking takes too long.' <i>Other Queensland visitor, female, 70 years</i>

4. Management Considerations

The findings presented in this report suggest management consideration is given to the following matters:

- Lake Tinaroo is primarily valued by respondents for its recreational values and natural scenic beauty, yet its status as a National Park and World Heritage Area appears to be undervalued. Promotion of the site's World Heritage values will increase this aspect of the site's appeal.
- The installation of showers at campgrounds will enhance the visitor experience and assist in protecting the natural environment (and prevent soap and detergents being used in the lake). Currently the only site with cold showers is Kauri Creek.
- Respondents expressed strong support for an on-site ranger to provide site maintenance, safety and security, and to lodge complaints about poor behaviour. This need is particularly evident during peak holiday periods and may require coordination with the Queensland Police Service.
- The on-line campsite booking system is not suitable for visitors who decide to stay longer than first intended or if additional guests join an existing campsite. Comments were also made about the lengthy time required to extend a campsite booking using the telephone booking system. Self-registration is suggested for some campgrounds although this will require monitoring by rangers for carrying capacities.
- There is some expectation of firewood being supplied by Queensland Parks and Wildlife Service (QPWS) at the campgrounds. At present, campers are advised of the need to bring their own firewood on the site's website. Similar advice should also be included in QPWS brochures and given when phone bookings are made. Commercial suppliers should also be permitted to provide information at the site to advise campers of the location of commercial supplies of firewood.
- Signage suggesting consideration of other campers before 7.00am and after 7.00pm may assist in reducing noise complaints and improve the visitor experience for those who are affected.
- Learning about Aboriginal culture was not an important reason for visiting Lake Tinaroo. However the lack of this type of signage at the campgrounds may be part of the reason for this response. Signage about Aboriginal culture is currently located only at the Boar Pocket Road access point to Danbulla Drive. Additional interpretative signs may enhance visitor appreciation of the area's traditional owners.

5. References

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Appendix 1: Site Survey Instrument



Visitor Site Survey in the Wet Tropics World Heritage Area

Interviewer:

Survey Location:

Survey Date: Time:

Weather: ☐ Sunny ☐ Overcast ☐ Raining ☐ Hot ☐ Warm ☐ Cool

Other Comments: (e.g. windy, smoky, mist)

.....

Dear Visitor,

We are researchers from James Cook University, School of Business – Tourism, and on behalf of the Wet Tropics Management Authority we are exploring visitors' expectations and experiences of this Wet Tropics site. We would be very grateful if you would participate in the study by completing this questionnaire.

Your participation will help to improve visitor services and the continued management of sites by understanding visitors' needs and views.

The questionnaire is **voluntary** and all **responses remain completely anonymous**.

The questionnaire will take approximately **15 minutes** to complete.

Thank you very much for your participation.

If you would like any more information about this project please contact the project manager. If you would like to discuss any ethical matters regarding this project please contact the Ethics Administrator. This project has Human Ethics approval H3100 from James Cook University.

PLEASE DETACH AND RETAIN THIS INFORMATION PAGE ONLY FOR YOUR FUTURE REFERENCE

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HOW TO COMPLETE THIS QUESTIONNAIRE – Where questions require a ‘Yes’ or ‘No’ answer, or multiple response, please put a tick ‘✓’ in the checkbox beside the appropriate response.

Where a scale question is provided (e.g. scale from 1 to 6) please circle the response which best applies.

SECTION A: BACKGROUND INFORMATION

1. **Where do you normally live?** ☐ Within Australia Postcode:
☐ Overseas Country:
2. **How long have you lived there?** Years
3. Which of these best describes your **occupation**?
☐ Self-employed ☐ Professional ☐ Retail ☐ Domestic duties
☐ Management ☐ Office/clerical ☐ Public service ☐ Manual/factory work
☐ Service industry ☐ Tradesperson ☐ Student ☐ Retired/semi-retired
☐ Other
.....
4. What is the highest level of **formal education** you have completed so far?
☐ Primary (1-7 years of education)
☐ Secondary (8-12 years of education)
☐ Tertiary A (Technical or further education institution)
☐ Tertiary B (University)
5. **What is your age?** years
6. **Gender:** ☐ Male ☐ Female

SECTION B: TRANSPORT AND TRAVEL

7. Are you with an **organised tour**? ☐ Yes
☐ No (Go to Question 8)
If you answered ‘Yes’, what is the name of the tour company?
.....
Approx. number of people on your tour:
8. If you travelled in a **private or hired vehicle**, how many people including yourself are in your vehicle?
..... Adults Children ☐ Private vehicle ☐ Hired vehicle

9. In your travels today, where did you **previously visit** before coming to this site?
(e.g. township, visitor site)

.....

10. In your travels today, where do you plan to go **after leaving this site**?

.....

11. How often do you **visit natural areas** like this (e.g. National Parks)?

- ☐ This is my first time
☐ Less than once a year
☐ Once a year
☐ Between 2 and 5 times a year
☐ More than 5 times a year

SECTION C: REASONS FOR VISITING

12. Please indicate how important the following **reasons** were for you **visiting this site** today.

	Not important	Slightly important	Moderately important	Important	Quite important	Very important
See natural features and scenery	1	2	3	4	5	6
Be close to / experience nature	1	2	3	4	5	6
Social with family or friends	1	2	3	4	5	6
Rest and relax	1	2	3	4	5	6
Experience tranquility	1	2	3	4	5	6
Outdoor exercise	1	2	3	4	5	6
Opportunities for short walks	1	2	3	4	5	6
Opportunities for long walks	1	2	3	4	5	6
Because it is a World Heritage Area	1	2	3	4	5	6
Because it is a National Park	1	2	3	4	5	6
Learn about native animals and plants	1	2	3	4	5	6
Learn about Aboriginal culture	1	2	3	4	5	6
Other (please specify)	1	2	3	4	5	6

13. What **activities** did you engage in at this site today?

- | | |
|---|---|
| <input type="checkbox"/> Observing scenery | <input type="checkbox"/> Walking – short (1 hour or less) |
| <input type="checkbox"/> Bird watching | <input type="checkbox"/> Walking – long (1-6 hours) |
| <input type="checkbox"/> Observe wildlife | <input type="checkbox"/> Swimming |
| <input type="checkbox"/> Photography / painting / drawing | <input type="checkbox"/> Guided tour |
| <input type="checkbox"/> Picnic / barbeque (BBQ) | <input type="checkbox"/> Looking at interpretation material |
| <input type="checkbox"/> Using café / restaurant | <input type="checkbox"/> Relaxing |
| <input type="checkbox"/> Camping | <input type="checkbox"/> Other (please specify): |

.....

14. Were there particular things you wanted to do today at this site which you were unable to do?

- ☐ Yes
☐ No

If you answered 'Yes', please specify:

.....

15. How **long** have you spent at this site today?

- | | |
|--|--|
| <input type="checkbox"/> Less than half an hour | <input type="checkbox"/> About 3 hours |
| <input type="checkbox"/> About half an hour | <input type="checkbox"/> About 4 hours |
| <input type="checkbox"/> About 1 hour | <input type="checkbox"/> More than 4 hours |
| <input type="checkbox"/> About 2 hours | <input type="checkbox"/> Overnight |
| <input type="checkbox"/> Days (please specify) | |

16. If an **entrance fee** were introduced to access this site today, how much would you be willing to pay?

- ☐ \$1 – less than \$2 (AUD)
☐ \$2 – less than \$5 (AUD)
☐ \$5 – less than \$10 (AUD)
☐ \$10 – less than \$20 (AUD)
☐ I do not think I should pay anything to access this site as a day visitor.

SECTION D: NATURAL ENVIRONMENT

17. The following statements are about the **natural features** of this site. Please rate the extent to which you agree or disagree with each statement.

	Strongly disagree	Somewhat disagree	Mildly disagree	Mildly agree	Somewhat agree	Strongly agree
The natural environment at this site is interesting.	1	2	3	4	5	6
I would like to spend more time exploring this natural environment.	1	2	3	4	5	6
In terms of natural attractions and scenic beauty this site is appealing.	1	2	3	4	5	6
The condition of the natural environment at this site appears to be good.	1	2	3	4	5	6
The natural environment at this site is well managed.	1	2	3	4	5	6
I am concerned about the impacts of human activity on the natural environment at this site.	1	2	3	4	5	6
This site appears to be disturbed and impacted.	1	2	3	4	5	6

SECTION E: SITE FACILITIES

18. What facilities have you used at this site today? (Tick as many as applicable)

☐ Picnic table

☐ Walking track

☐ Shelter shed

☐ Boardwalk

☐ Restaurant / café

☐ Viewing platform / lookout

☐ Rubbish bin

☐ Fire place

☐ Toilet / showers

☐ Barbeque

☐ Tap

☐ Other (please specify)

19. Were there particular **facilities at this site you were expecting** to find which were not available?

☐ Yes

☐ No

If you answered 'Yes', please specify:

.....

.....

20. Please rate the extent to which you agree or disagree with each of the following statements about the **facilities and management** at this site.

	Strongly disagree	Somewhat disagree	Mildly disagree	Mildly agree	Somewhat agree	Strongly agree
The site is appealing in terms of the character and attractiveness of the facilities.	1	2	3	4	5	6
The facilities at this site are adequate.	1	2	3	4	5	6
The overall condition of the facilities at this site appears to be good.	1	2	3	4	5	6
The facilities and infrastructure at this site are well managed.	1	2	3	4	5	6
The presence of a ranger at sites like this is important to me.	1	2	3	4	5	6

21. If you **agreed the presence of a ranger was important**, what are the reasons for this?

☐ To provide information / education

☐ To give directions

☐ To answer questions

☐ For lodging complaints about others' behavior

☐ To take us on guided walks

☐ For site maintenance

☐ For safety / security

☐ Other (please specify)

.....

SECTION F: INFORMATION

22. How did you **find out about this site**?

- | | |
|---|---|
| <input type="checkbox"/> Have been here before | <input type="checkbox"/> Travel guide or book |
| <input type="checkbox"/> Road sign | <input type="checkbox"/> From the web |
| <input type="checkbox"/> Word of mouth | <input type="checkbox"/> The trip here was included in a package tour |
| <input type="checkbox"/> Map which said it was a tourist site | <input type="checkbox"/> Tourist brochure (which one?) |
| | |
| <input type="checkbox"/> Tourist information centre in North Queensland | <input type="checkbox"/> Tourist information centre (other) |
| | |
| <input type="checkbox"/> Other (please specify): | |

23. If you obtained **prior information** about this site, was the information accurate?

- ☐ Yes
☐ No

If you answered 'No', please specify:

.....

24. Did you refer to any of the information available at this site today? ☐ Yes
☐ No

25. Please rate the extent to which you agree or disagree with the following statements about **information available** at this site.

	Strongly disagree	Somewhat disagree	Mildly disagree	Mildly agree	Somewhat agree	Strongly agree
Signs, maps and directions...						
were easy to find	1	2	3	4	5	6
helped me to find my way around	1	2	3	4	5	6
The rules and safety information...						
were easy to understand	1	2	3	4	5	6
addressed my interests and concerns	1	2	3	4	5	6
The information about natural features and values...						
was interesting and informative	1	2	3	4	5	6
helped me to better appreciate the special natural values of the area	1	2	3	4	5	6
The Aboriginal cultural information...						
was interesting and informative	1	2	3	4	5	6
helped me to understand the significance of this area for Rainforest Aboriginal people	1	2	3	4	5	6

26. If you were to visit this site again, is there any **additional information** you would like?

☐ Yes

☐ No

If you answered 'Yes', please specify:

.....

.....

SECTION G: VISITOR EXPERIENCE

27. Were there any particular aspects of your visit that **increased / enhanced your enjoyment** of this site?

☐ Yes

☐ No

If you answered 'Yes', please specify:

.....

.....

28. Were there any particular aspects of your visit that **took away / detracted from your enjoyment** of this site?

☐ Yes

☐ No

If you answered 'Yes', please specify:

.....

.....

29. Please rate how strongly you agree or disagree with the following statements about **other visitors at this site** today.

	Strongly disagree	Somewhat disagree	Mildly disagree	Mildly agree	Somewhat agree	Strongly agree
There were too many people at this site today.	1	2	3	4	5	6
The presence of other people at this site prevented me from doing what I wanted to do.	1	2	3	4	5	6
The behavior of other visitors at this site has been on the whole environmentally responsible.	1	2	3	4	5	6
The behavior of some visitors at this site detracted from my enjoyment of this site.	1	2	3	4	5	6

ADDITIONAL COMMENTS:

.....

.....

.....

.....

.....

.....

.....

.....

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THANK YOU VERY MUCH FOR YOUR PARTICIPATION

Appendix 2: Site Photographs

Platypus Rock



Photographs by Ben Stevenson and Julie Carmody

Kauri Creek



Photographs by Ben Stevenson and Julie Carmody

Downfall Creek



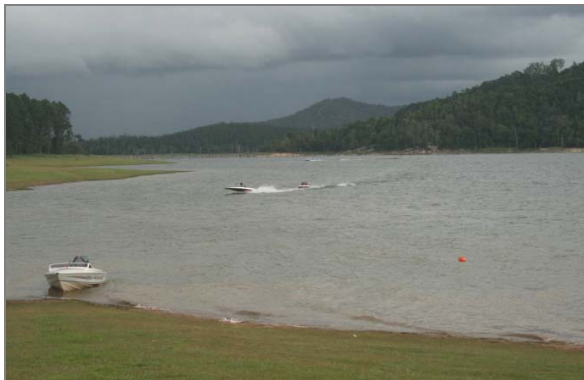
Photographs by Ben Stevenson and Julie Carmody

School Point



Photographs by Ben Stevenson and Julie Carmody

Fong-On Bay



Photographs by Ben Stevenson and Julie Carmody